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SPAVIN.*

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SPAVIN is one of those common deformities which are daily before us, and causes many a lawsuit in our courts. Therefore it behoves all of us to make ourselves acquainted with it, and be as unanimous in our opinions upon the various points connected with it as possible.

I shall endeavour to place all the main points found in our literature up to the present time before you; but I must ask you to allow me a little indulgence on your time, because I am afraid my paper is rather long.

Nearly all my remarks will be found in one or other of the following works, viz.: Professor Dieckerhoff's "Die Pathologie und Therapie des Spats der Pferde," 1875; an article on the subject by Professor Dr. Schütz, 1870; Mr. Percivall's "Hippopathology"; and Professor Williams' "Surgery."

Derivation.—The Latin word was used by Jordanus Rufus in 1250, but it is unknown whether he invented it or not. Blundeville, who wrote in 1608, called it the Spavin, from the Italian *spavano.* Skinner and Lemon derive it from the Greek word *spasmos* (σπασμος), meaning cramp or convulsion; or it is possible it may be connected with the word *spasis* (σπασις), meaning a pulling, because of the snatching or stringhalt action, or, as the Germans

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call it, "fowl-gait" (*hahnentritt*), which frequently accompanies the disease. James Winter, in his "Horse in Health and Disease," 1846, p. 347, says the word Spavin is derived from the French *ésparvin;* while Percivall informs us that others derive the name from the French adjective *epars*, or the Latin *sparsus*, on account of the straddling gait so often seen accompanying this malady.

English.—Spavin, Bone Spavin.
German.—Spat (old, Spaat, Spath, Spaten, and Spathen).
French.—Eparvin (old, Esparvin, etc.).
Italian.—Sparagagno, Sparavano, Spavano, Spavuto.
Latin.—Spavanus and Spavenius.
Spanish.—Esparavan.
Danish.—Spat (Beenspat).
Swedish.—Spatt (Benspatt).

Although it is advisable to find out the origin of the words we use, still it appears more important to us to ask ourselves whether the term can with propriety be altered for a better. I must confess that I am still of Percivall's opinion upon this point, who says: "For my own part, I would fain discard the word *Spavin* altogether from our nosology, and in its place introduce some appropriate names for the three or four diseases it at present is used to denote; such, however, is the attachment for old or received appellations, such the prejudice against new ones, that I must confess I lack courage to embark in so ungracious an undertaking. One thing, however, I must do, and that is to circumscribe the meaning of the word *Spavin*, whenever and wherever I may use it, to that disease of the hock commonly called *Bone Spavin*," and I would add "*Occult Spavin*."

Literature.—No account of veterinary literature is found during the middle ages, with the exception of Jordanus Rufus, who wrote in 1250. In 1578 Max Fuggen wrote a book on "Breeding." In 1598 Carlo Ruini wrote "Dell'Anatomia et dell'-Infermità del Cavello," a short diagnosis of the principal diseases of the hock; and in 1599 M. Scuter wrote one, entitled "Hippiatoia." In 1608 Thomas Blundeville wrote a work called "The Four Chief Offices belonging to Horsemanship." In 1664, Solleysel, a Frenchman ("La Parfait Mareschal")

pointed out the importance of the convulsive movement of the limb after standing, and allowing it to become cool. In 1716 Valentine Trichter wrote. In 1734 Saunier divided Spavin into three kinds, and pointed out the breeds of horses most subject to each. First, he says, well-bred horses are more subject to Dry Spavin (*l'Eparvin Sec*), which is transmitted to the progeny; secondly, Fat Spavin (*Eparvin Gras*) occurs in horses in damp situations (this is probably from strain, and what we term Thoroughpin); and thirdly, Ox Spavin (*Eparvin du Bœuf*), which is the worst kind. In 1754 Gibson wrote, "A New Treatise of the Diseases of Horses," and introduced the name Bone Spavin, and explained it thus: "The capsule was first filled with synovia, causing the swelling; this hardened, and ultimately formed a callus, which was Spavin." In 1757 Zehentner (a German) first introduced Occult Spavin. In 1768 Bourgelat and Lafosse wrote upon Spavin. Burger ("Die Veterinair-Diagnostik," 1830) divided Spavin as follows: 1, Pternophyma; 2, Largopterna Equorum (Curb); 3, Tarsociosus (Blood or Ox Spavin); 4, Tarsosteophyma Equorum (Bone or True Spavin). After this time numerous writers in all countries have given us their opinions of the causes and pathology of this disease.

Definition.—Each author gives a definition of this malady according to his own view of its pathology. But, for all practical purposes, I think we may define Spavin to be a complicated chronic inflammation of the hock-joint (Arthritis Chronica, s. Deformans) followed by the formation of new bone, which cements the small bones of the hock together, and produces an enlargement (exostosis) on the inferior and inner part of the hock.

Before considering this malady, perhaps it would be well if we look at the rough anatomy of parts involved.

Anatomy.—The bones which enter into the formation of the hock are:—(1) Inferior articular end of tibia, (2) Calcis, (3) Astragalus, (4) Cuneiform magnum (scaphoid), (5) Cuneiform medium (great cuneiform), (6) Cuneiform parvum (small cuneiform), (7) Cuboid, (8) Superior articular ends of the large and small metatarsi. These go to form four articular rows, viz.: (1) between the tibia and astragalus (true hock-joint), (2) be-

tween astragalus and calcis on the one hand, and the cuboid and magnum (scaphoid) on the other, (3) between the cuneiform magnum superiorly, and the cuneiforms medium and parvum inferiorly, (4) the cuboid, cuneiforms medium and parvum superiorly, and the three metatarsals inferiorly. The bones of each row are united together by inter-osseous ligaments, and the rows are joined by capsular and inter-articulate ligaments, and the whole are held together and strengthened by the large superficial ligaments.

The flexion and extension of the hock is kept in unison with that of the tibio-femoral joint, through the connection of the M. Gastrocnemii posteriorly, and the flexor metatarsi anteriorly. The flexor metatarsi is divided into two portions, a muscular portion and a tendinous portion. The latter takes its origin, in common with the extensor pedis, at the fossa on the external part of the inferior end of the femur (between the external trochlea and condyle). It passes down over the fatty cushion and a large bursa (which is in direct communication with the femoro-tibial joint), to join the muscular portion, which arises from the supero-anterior part of the tibia. They pass down—loosely connected together by connective tissue—to the inferior part of the tibia, where the tendinous portion forms a loop for the tendon of the muscular portion to run through. From this loop three insertion branches are given off. The external one becomes attached to the cuboid bone. The middle branch passes straight down, and is inserted into the large metatarsal bone. The internal branch *spreads out into a fan-shaped tendon, and becomes attached partly to the large and small cuneiform bones, and head of the small and large metatarsals.*

After the tendon of the muscular portion has passed through the loop formed for it by the tendinous portion, it divides into two branches. The anterior one takes a straight course, and is attached, with the middle branch of the tendinous portion, to the head of the large metatarsal. *The internal one takes an oblique course inwards and backwards, over the cuneiform bones, under the sheath of the flexor pedis accessorius, and becomes inserted into the small cuneiform bone and head of small inner metatarsal bone.* This branch can be easily felt with the finger, and even seen in well-bred and thin-skinned horses.

Under this internal branch of the muscular portion of the flexor metatarsi, and upon the fan-shaped internal branch of the tendinous portion of the same muscle—i.e., between the two—we find a LARGE BURSA *extending over the cuneiforms magnum and parvum and head of small metatarsal bone.* Anteriorly it extends to the front of the hock; superiorly it is in apposition with the capsule of the true hock-joint. The innermost layer of this bursa lies on the internal branch of the *tendinous* portion of the flexor metatarsi; its external wall lines the inside of the internal branch of the *muscular* portion of the flexor metatarsi. But there is a portion of the bursa which is not covered by this tendon; *this part is below the tendon, and only covered by subcutaneous tissue and skin.* The bursa is always damp and smooth, but never contains any fluid, except in cases of disease, such as Dropsy of the Bursa. Each joint-surface of the bones of the hock is covered by naked cartilage, and each row of bones has a separate joint capsule, which commences where the periosteum ceases, at the junction of the articular cartilage and bone. The articular cartilages are separated from the cancellous tissue of the bones by a thin, bony plate (lamina terminalis).

Physiology.—The hock is one of the most, if not the most, important joints of the body, for riding and driving horses. The peculiar "catching" movement of the joint used to be wholly attributed to the formation of the bones, but now-a-days we apportion this action to the elasticity and position of the ligaments and tendons, and their connection with other joints. The action of the hock does not simply depend upon its own conformation; but it is governed also by that of the hip and stifle joints; for, if these are badly formed, we at once see the disadvantage under which the hocks act. The angle between the tibia and metatarsal bones in a well-formed hock is about 140°.

Hock action is of the passive kind, for muscles of the hock, as such, hardly exist (Günther). This is demonstrated by the fact that if we make the tibio-femoral joint a fixed point, and then cause any single muscle below it to contract, it is difficult to produce either extension or flexion, which proves that extension and flexion of the hock only takes place by a similar extension and flexion of the stifle-joint.

Model.—Consequently, to obtain the proper action of the hock, we must have the muscles which act upon the stifle-joint well developed; but, besides this, experience teaches us that the hock, with its tendons and ligaments, must also be well put together to stand hard work.

The connection which exists between the stifle and hock to secure their simultaneous action is, posteriorly, the gastrocnemii muscles, and, anteriorly, the tendinous and muscular portion of the flexor metatarsi.

Thus the "check apparatus" to flexion of the hock is the gastrocnemii muscles and fascia—the gastrocnemius externus being the most important—while the check to extension of hock is the tendinous and muscular portions of the flexor metatarsi, the former being the most important.

Physiologically, then, the foot of the horse includes the hock metatarsals and phalanges, and is not so different from that of man as it at first appears. The animal does not bear the whole of its weight on the last phalange, as it appears at first sight to do, because the "check apparatus" just mentioned takes the whole of it. It is this arrangement of the tendons (ligaments) which allows horses to stand for the length of time we know, from experience, they can do.

When a horse moves forwards, he takes the hind limb from the ground by flexing the joints, brings it forwards and places it on the ground again; then by extension of the joints, due to the muscles of the hip and stifle joints contracting, the body is propelled forward on the foot as a pivot. The hock has to carry the greater part of the weight, and it is enabled to do so by the arrangement of the tendons mentioned above.

This is seen in rupture of the Achilles tendon; the horse cannot put his weight on the foot, and when the tendinous portion of the flexor metatarsi is ruptured, the horse can no longer flex the hock.

Etiology.—The causes of Spavin may be divided into external, extrinsic, or actual causes, and internal, intrinsic, or predisposing.

The Internal (*or Intrinsic*) may be classified as: (1) Defective histological arrangement of the tissues; (2) Imperfect confor-

mation of the hock; (3) Imperfect construction of other parts of the body; and, (4) Bad temperament.

1. By a *Defective Histological Arrangement of the Tissues*, we understand some abnormality in the composition of the materials forming the hock-joint, or, as Virchow calls it, "cellular weakness," whereby the tissues are incapable of resisting the wear and tear of ordinary work. For instance, some have thought that a porous condition of the bone (a minus of earthy matter) predisposes to Spavin, whereas others may say the opposite of this; or excessive hardness of the bone, or a very thin layer of cartilage over the bone, would be less likely to resist concussion, which some give as a cause. However, it is a fact that young horses are more subject to Spavin than old ones, and the tissues at this age are soft and immature, therefore more liable to become diseased. The joints, ligaments, sheath, bursæ, periosteum, and bones are easily irritated at this age.

2. *Imperfect Construction of the Hock* may be a predisposing cause of Spavin. Thus, when a hock has an angle less than 135°, it is too much bent, or, as it is termed, "*sickle-hocked*." Such hocks will not stand fast work, however; they are more predisposed to Curbs than Spavin.

Cow Hocks are those in which the calces are close together, and the metacarpals pass from inwards above to outwards below; these are more liable, says Dieckerhoff, to enlarged bursæ than Spavin.

Straight Hocks are those in which the point of the hock (calcis) is placed near to the tibia, and the angle of the hock is larger (more than 160°). Dieckerhoff says these hocks are more predisposed to inflammation of the flexor pedis bursæ (Thorough-pin) than they are to Spavin.

Wide Hocks, or hocks wide apart, are usually caused by uneven pressure on the feet from bad shoeing, such going continually on the external wall of the foot; or to disease of the fetlock-joint.

There is no mathematical exactness of the length, width, and depth of the hock in various-sized animals. This must be judged from experience.

Length is reckoned from the point of the calcis to the head of the metatarsal bone.

Width from back to front, superiorly and inferiorly.

Depth is the thickness from external to internal sides.

Horsemen often speak of "strong" and "weak" hocks. The former signifies that the hock is conformable in length, width, and depth, of a proper angle and natural position; the latter signifies the opposite.

Large or Powerful Hocks are distinguished by length, width, and depth, with large bones for firm and extensive attachments for ligaments and fascia.

Small Hocks are those which appear small when compared to the other parts of the body. They are usually accompanied by "light bone" and "no legs," and afford little attachment for ligaments, etc.

Flat Hocks are those which appear laterally pressed together; they are predisposed to Spavin, like the last.

Narrow Hocks are those which appear small from a profile view, or are straight and upright, and are predisposed to all kinds of disease.

Laced-in Hocks are those which appear small at the inferior part or head of metatarsal bone.

Günther says this kind of hock is due to the extensor pedis being bound close to the bones, but Williams says it is owing to the bones themselves (cuneiform bones and head of metatarsals) being smaller.

Short, Thick, or Round Hocks, are due to the os calcis being short, thereby giving the other bones undue appearance of size. Dieckerhoff says these hocks are more liable to bursal enlargements than to Spavin, but this seems to be the shape most predisposed to Spavin, in Percivall's estimation.

Another intrinsic cause is that given by Williams, viz., the screw action of the astragalus, which produces compression of the cuneiform bones during excessive flexion. But if this were the case, would not the rule be that Spavin occurred in front of the hock, and not at the side? and would not the astragalus and cuneiform magnum be most frequently implicated?—whereas we know this is not so.

3. *Imperfect Conformation of the Body.*—The lighter the abdomen and the longer the back and loin, the more stress there

is on the hinder extremities; because more power is required to overcome the weight of the forehand and to keep the equilibrium of the body. Such animals, as a rule, have an imperfect digestive apparatus, and are not able to assimilate sufficient food to maintain their strength; and the tissues of the body are indifferently nourished and weak (minus of tone).

The Pelvis may be narrow, or the ischial tuberosities may be short, in which case the muscles attached to them are small, weak, and short, the latter producing what is termed "*goose-rumped.*"

The Patella Joint should form an angle of from 120-130° between femur and tibia. If it is smaller, the animal tires quickly, and the tendon of the flexor metatarsi is easily excessively extended.

4. *Bad Temperament.*—Irritable and high-spirited animals put more exertion into their labour than is necessary; therefore the strain and tension of the muscular and tendinous structures is greater. They are usually bad walkers, consequently concussion is continually going on when they are out. They are also usually delicate feeders.

External Causes (*Extrinsic or Exciting*), as Percivall says, may be divided into two general heads—the one being those agents giving rise to extension, strain, sprain, and laceration of the fibrous tissues of the hock, the other concussion of its joints.

Dieckerhoff says Spavin is caused by inflammation of the bursæ under the medial branch of the muscular portion of the flexor metatarsi, produced by excessively hard work, heavy weights, galloping, pulling-up short, covering mares, hill work, high-calkined shoes, etc.; also to traumatic causes.

Food, either deficient in quantity or quality, may so alter the tissues that they are predisposed to sprain. Thus, horsemen practically know that animals fed on grass and watery food-stuffs, with little exercise, are unfit to undergo any severe exertion; or are, as they call it, "not in condition." Such animals are liable to suffer from sprains, etc., of various tissues of the body. The same occurs after any illness or long rest.

Spavin may also result from the Rheumatic Diathesis or Specific Arthritis, consequently to cold.

We also know inflammation of the sheaths and tendons often

follows Influenza, but Dieckerhoff says he has never been able to trace this as a direct cause of Spavin.

Pathological Anatomy.—The joint which is most frequently found diseased is that between the cuneiform bones. Next to this, the joint between inferior cuneiform and metatarsal bones, and occasionally that between the superior cuneiform and astragalus, and in very bad cases the true hock-joint itself is implicated. Changes are observed in the articular cartilages, bone, synovial capsule, periosteum, and surrounding fibrous structures.

The articular cartilages may be found swollen, bluish in colour, softened, or breaking down (Caries).

The articular end of the bones may be found either naked, and polished from friction of the bones with one another, or rough, from the formation of new bone, necrosed ; or anchylosis with the bones in apposition, may have taken place.

The synovial capsule is inflamed, the papillæ become enlarged in size and number ; some may be connective tissue, others are cartilaginous, whilst others may be ossified.

The periosteum becomes inflamed, and forms new bone around the joint. This inflammation extends to the ligamentous structures around, and earthy matter is deposited in the inflamed products.

Pathology of Spavin.—Various views are held, even in our days, as to the true origin and nature of Spavin ; some (as Schütz, of Berlin, Percivall, and Goodwin) saying the process commences in the articular cartilages of the joint ; others (as Professor Williams) contend that the bones first become inflamed ; others (Coleman) have said the inflammation commences in the periosteum ; others say it commences in the ligamentous structures, and some hold it may commence in one tissue at one time and another at others ; whilst others, again (as Dieckerhoff), maintain that the bursa under the internal branch of the flexor metatarsi is the first part to become affected.

Professor Schütz describes the process, commencing in the articular cartilages of the joint, as follows :— The cartilage first swells in different parts, due to a growth and multiplication of the cell elements of the tissue. This change takes place to the largest extent near the outside of the cartilage, where

the periosteum and synovial membrane join, *i.e.*, where the cartilage is best supplied with nourishment. The degeneration, or softening, of the cartilage, commences on the free surface, or that next the joint. This gives the free surface of the cartilage a velvety appearance. The process then proceeds to the deeper layers of the cartilage, and extends until the whole of the cartilage is destroyed and the lamina terminalis of the bone exposed.

The ends of the bones coming into contact with each other, and then rubbing together, causes them to become polished.

This simple chronic articular inflammation lays the foundation for the formation of new bone (exostosis): (1) On the lamina terminalis, whose surface becomes rough and uneven by small outgrowths of bone, which develop from the deeper layers of the swollen cartilage. This roughness of the articular facets of the bones causes great pain and lameness. (2) We find new formation of bone taking place outside the joints, viz., from the periosteum; this interferes mechanically with the movements of the joint.

This formation outside the joint varies in degree to a large extent, according to the intensity of the inflammation, producing the unevenness on the outside of the medial surface of the hock which we call Spavin.

If the process extends, we find the connective tissues (ligaments, etc.) around the joint also become inflamed, and earthy salts are deposited in them, so that ultimately the small bones are cemented together, and a true synostosis formed.

Ultimately, the synovial membrane of the joint may undergo changes. Papillæ grow from it into the joint, which may vary in size; some may be connective tissue, others changed into cartilage, and others to bone.

Thus we see that the process commences in the joint, and extends to the tissues outside, until the shape and form of the joint is altered; hence, the term *Arthritis Deformans* is applied to this disease.

Professor Williams says: "The inflammation of the bones (Ostitis) originates in the cancellated structure of their interior, whereby an exudation is thrown out between them and their

cartilage, preventing the nutrition of the latter, whereby it ulcerates and is removed, leaving the exposed surface of the bones in contact with each other, and their cancellated structures in apposition, thus enabling their vessels to communicate with each other. Concomitant with the destructive process going on in the interior of the bones, an exudate is formed upon their periosteal surface, extending from one diseased bone to another, binding them together by a band of lymph, ultimately converted into bone, which locks them firmly together and prevents further motion. In old horses the process of anchylosis is limited to the periosteal surfaces, whilst destructive action still proceeds upon the articular ones; whereas, in young and middle-aged horses, lymph is thrown out between the ulcerated surfaces of bone, which is organised into true osseous matter, making the process of anchylosis complete at all points." And he goes on to say: "We may now understand why the external deposit is not the cause, but the result, of the disease, and why its presence is not always accompanied by lameness."

Dieckerhoff, when upholding his theory that Spavin commences in the bursa, under the internal insertion branch of the muscular portion of the flexor metatarsi, says, "The membrane lining the bursa first becomes reddened, and secretes a serous fluid (not found in the normal bursa), infiltrated with cells, causing a swelling or bursal enlargement — *Serous Spavin.* Plastic lymph is then formed, and the two sides of the bursa become united and indurated, at which stage the process may cease, when we have obliteration of the bursa and the formation of a *Fibrous Spavin.*" If the process attacks the superior part of the bursa, it may become united to the capsule of the tibio-astragalean joint, to which, at this part, the bursa is closely related.

The inflammation must be very slight to abate at this point (the bursa); therefore, the rule is for it to extend to the underlying tissues (ligaments), causing them to lose their elasticity, and ultimately they may become ossified (parosteal ossification). The inflammation may extend deeper to the periosteum of the bone, which membrane, if inflamed, has a tendency to produce new formations of bone. In the first place, they are not dense

(osteophytes); they then harden, forming *exostoses*, and these separate exostoses become united together by bone, forming a general ossific mass (hyperostosis), but a compact bony mass is never formed.

In this way, then, the small bones of the hock are united together (supra-cartilaginous synostosis).

This irritation going on outside the joint capsule often sets up inflammation in the synovial membrane (synovitis), producing increased secretion, thickening, and even exudation of pus cells into the joint capsule, although this is rare even in traumatic Spavin.

From the synovial membrane the inflammation may extend to the articular cartilage, which changes to a bluish colour, becomes swollen, and presents a velvety appearance on its free surface. The cartilage cells begin to multiply, producing cloudiness, and sometimes warty-like growths are formed, although rarely. Portions of the cartilage become destroyed, giving it a worm-eaten appearance, and ultimately the lamina terminalis of the bone becomes exposed in places—rarely is the whole cartilage destroyed—and the roughened free surfaces of the bones come into contact with each other, producing rarefying Ostitis, and complete ossification (synostosis vera) takes place between them. This union is most common between the two cuneiform bones, but not often between the metacarpal and cuneiform, and less frequently between the superior surface of the cuneiform magnum and astragalus. At other times, the free surfaces of the exposed bones become hardened (condensed Ostitis), and polish by the friction on one another.

Complications.—The inflammation may extend to the true hock-joint, causing at first increased secretion of synovia with exudation of serum, followed by a fibrous exudate, and ultimately thickening, shrinking, and induration of the capsule. The papillæ on the synovial membrane are enlarged (even to the size of peas), and the secretion is thick, tenacious, and lumpy, which undoubtedly produces irritation to the cartilage, followed by warty growths (enchondroses) and ulceration of the cartilage.

Symptoms.—Spavin is usually (but not at all times, nor in all

cases) accompanied with *lameness*, which varies in degree from simple stiffness to absolute halting or hopping. Lameness is not seen in all paces. Sometimes a spavined horse will walk sound, but be very lame when trotting. Lameness is usually well seen when the animal is "put over" from side to side in the stall; it passes from the sound to the diseased side fairly well, but when passing from the diseased to the sound side the animal limps and catches the foot up as soon as possible. The same is frequently noticed when turning a horse in hand ("it cocks the hock.") Spavin lameness not only varies in degree (owing to the intensity of inflammation present), but the action of the hock also varies according to the extent and position of the changes that have taken place. In the stable the animal may place the foot normally on the ground; at others the hock will be continually flexed, the hip lowered, the foot placed forward, and the toe only touching the ground. When the horse is trotted, the hock may be flexed strongly and quickly when the limb is off the ground, and the hip raised to a considerable height when the limb is on the ground; or the hock may be bent very little indeed, the limb being carried stifly, and even dragged along the ground, so as to wear the toe of the hoof away. Again, the foot may be advanced well forward before it is placed on the ground; whereas, at others, it may be placed on the ground very little in front of the other foot.

Lameness is not always present: for instance, it may be intense when the horse is first brought out of the stable, but after it has been moving for some time, the lameness is scarcely perceptible; but if the animal is allowed to rest for an hour the lameness returns. The lameness is usually worse after severe exercise, or a hard day's work.

The *temperature* of the hock may be increased.

Pain is sometimes evinced upon pressure on the inner side of the joint.

Swelling may take place, as Schütz points out: Firstly, from the edges of the articular cartilages swelling; secondly, from swelling of the synovial membrane; thirdly, to an increased secretion of the fluid in the joint capsule; and also, as Dieckerhoff says, from enlargement of the bursa on the inner side of the hock.

The enlargement is, however, usually due to a new formation of bone (exostosis), which may vary in size from a slight roughness on or between the small cuneiform bones, to a large "knot," or "jack," the size of a hen's egg, or more, involving all the bones on the inner side of the hock-joint. The position of this bony enlargement may vary, being "high" or "low," "forward" or "backward."

Crackling and crepitation may sometimes be heard when the joint is moved (Schütz).

The muscles of the haunch may be wasted if the lameness has lasted long.

Theory of Spavin Lameness.—Various opinions have been given from time to time respecting the actual cause of pain in Spavin.

1. Some (Boerhaave, etc.) have said the pain is due to distension of the periosteum by the exostosis; but others (Dieckerhoff, etc.) think that when these growths form, the thin, delicate periosteum accommodates itself to the enlargement.

2. To the spicular-like exostoses rubbing against the tendons and ligaments; but it is proved that the intervening spaces of these are filled with connective tissue, and, moreover, the tendons which pass over them are quite smooth, or completely attached to the new bone (Dieckerhoff).

3. To *tension of the tendons and ligaments* from the pressure of the new growth under them; but opposed to this is the fact, that when these are pressed or raised no pain results (Hering).

4. That the disease of the cartilage and bone, producing a rough surface, which, coming in contact with each other, causes pain (Havemann). However, we often have disease of the cartilages without lameness, and the friction of roughened bones upon each other soon makes them smooth and polished, and glide easily over one another without pain. Also, lameness may be present without the articular surfaces being affected (Hering).

(To be continued.)

SHORT NOTES ON TWO CASES OF CONTAGIOUS PUSTULAR STOMATITIS IN HORSES AND ON THE COMMUNICATION OF THIS DISEASE TO TWO MEN.

BY JAMES BRODIE GRESSWELL, M.R.C.V.S., LOUTH.

IN bringing before the notice of the readers of THE VETERINARY JOURNAL the subject of Contagious Pustular Stomatitis, as illustrated by four cases, two in horses and two in men, I wish to express, in the first place, my opinion that when carefully studied this disease seems to have no more special relationship with Equine Variola or other exanthems, than, indeed, the various specific fevers have one with another.

In short, I am led to regard Contagious Pustular Stomatitis as a distinct eruptive fever, characterised by a local eruption, coupled with febrile manifestations and sore throat, and this opinion I have arrived at more especially from a careful scrutiny of the cases now under consideration.

On the 27th of May I was asked to see a seven-year-old cart-horse, which was slavering profusely. On examination of the mouth, the whole of the epithelium underneath the tongue and on the inside of the cheeks was found to have peeled off in flakes, and the raw surface left was studded copiously with little rounded ulcers, each of about two-thirds the size of a threepenny-piece. Many of the ulcers became confluent on the following day, forming large ulcerated surfaces. There was no eruption in any other part of the body excepting one solitary ulcer on the nose, about half-an-inch from the mouth. This soon healed. The mucous membrane of the mouth was hot, dry, and red, and was covered with a tenacious, sticky secretion.

The pulse was sixty per minute and regular, the respirations were not accelerated, and the temperature did not reach beyond 102·5°. The animal masticated and swallowed with difficulty, but there was no loss of appetite. Saliva was passed out in great quantity; there was no discharge from the nostrils, but the Schneiderian membrane was of rosy reddish hue, and the submaxillary glands were slightly enlarged, but were not adherent to the skin or to the subjacent bone. About the seventh

day from the commencement of the disease, the ulcers began to heal, and the horse made a complete recovery in a fortnight.

The shepherd on the farm who had the horse under his charge, had given an aloes ball to the animal as soon as he noticed him ailing, and in so doing received a slight scratch on the second and third finger of the right hand. His right arm began to swell about ten days afterwards, but he went to work nevertheless. The swelling then became more severe, the patient took to his bed, and pustules formed and burst about the twelfth day after the arm first began to swell. There were then five ulcerated patches on the back of the wrist as large as sixpenny-pieces, but oval in shape. The man made a gradual recovery, but he had very high fever, profuse salivation, and dry, parched mouth, and his throat was very sore. There was no rash in any other part of his body. Several days after the first horse was attacked, another animal, a four-year-old horse, was noticed to be ailing, and numerous ulcerated patches were found on the inside of the cheeks ; the whole of the tongue was red and raw, and there was profuse slavering ; the appetite was not much impaired, but deglutition and mastication were difficult. The other symptoms were the same as in the former case, but the submaxillary glands were not affected. Little depressed cicatrices remained on the place of the ulcers, but they gradually disappeared. The nostrils were not affected, but the Schneiderian was of a rosy hue. The foreman who had attended this case became inoculated from his charge, and about ten days after receiving a slight abrasion on the finger, his arm began to swell, and then ulcers were formed on the back of the hand and on the wrist. The disease proved milder in this case than in that of the shepherd, but there was more affection of the mouth and more salivation than in his case.

THE INFLUENCE OF HEREDITY AND CONTAGION ON THE PROPAGATION OF TUBERCULOSIS.

(Continued from page 258, vol. xix.)

The morbigenous principle appears, according to this information, to have already invaded the secretive organs at a period

when no macroscopical lesion was present to indicate the existence of any alteration in them. Therefore it would appear from this fact, that where the means of investigation with which science has provided us are at fault, we cannot expect the practitioner to establish a precise and clear distinction in the special cases to which we refer, and in all of them, with irrefutable arguments to support him, to define the limit between that which may and that which may not be consumed.

The difficulties to be encountered when we are called upon to give an opinion with regard to the flesh of a tuberculous animal are undeniable, and are such as to be scarcely evaded ; it therefore follows that the confiscation of meat always offers, in this respect, *desiderata* which can scarcely, or at most only incompletely, be obtained.

From all that has been stated, it may be concluded that, in itself, the confiscation of phthisical cattle, no more than the recommendation or order to eat only cooked flesh, will preserve us in a complete manner from the danger of infection with which we are threatened by tuberculous meat. To attain the desired end, this confiscation should be reinforced by auxiliary arrangements. In a word, mitigated measures are not efficacious, and severe measures are not strictly observed.

The circumstances which may preserve mankind from the harmful action of the *milk*, are, happily, more easy to realise than those which should completely guarantee us from the danger likely to be incurred from consuming the flesh of tuberculous animals. It is, nevertheless, true that we do not know the special character which would allow us to distinguish, either by the naked eye, or by the aid of chemical or ordinary physical analysis, healthy from infected milk, while, on the other hand, obligatory search for the tubercle *Bacillus* in all milk would be an excessive and impracticable measure. Besides, the compulsory sanitary control of all milch cattle by veterinary surgeons would be not only very difficult to ensure, but it would be also very vexatious and costly, and, after all, would not afford absolute security.

To prohibit the sale of the milk of cows presenting symptoms

of tubercular Phthisis would be without result, the milk not being subjected to sufficient control, so far as its origin is concerned.

The recommendation not to use the milk until it has been boiled has more likelihood of being observed, and is more certain of success than that relative to cooking the flesh. Milk is a fluid which heats uniformly, so that we may admit that in boiled milk every specific principle of Tuberculosis, as well as the virus, is destroyed. In addition, the milk from different animals is usually mixed, so that the activity of the virus in virulent milk is in this way attenuated, by its commingling with healthy milk. This attenuation may be so great that the mixture is altogether inoffensive. Lastly, it should be recognised that the milk of every tuberculous cow is not fatally charged with the contagious principle of Tuberculosis; although we cannot deny that the milk of such cattle should be very infective if the disease is localised in the udder.

It results from the observations collected up to the present time, and from a consideration of the natural condition of things, that the dairies which supply milk warm from the cow, to be given directly to children, offer the greatest danger to the public health. In these establishments they do not rear the cows they employ, but buy them, always endeavouring to obtain those which yield most milk, and these they milk excessively. From these circumstances, it very often happens that the cows in these places are already tuberculous on their arrival, and it is the milk of such animals which is consumed in the manner alluded to—either warm or cold—by persons who, from their constitution, are predisposed to the influence of the infecting agent.

The danger we refer to has been recognised for a long time, and attempts have been made to avert it by different means. In certain continental towns such establishments are only allowed on the understanding that the owners will submit them to a special surveillance exercised by the local police, over the production of milk. In other places, the local administration prescribes, without other preliminary, the control of existing dairies; while in others, finally, the necessary conditions for the production and sale of milk suited for infants and sick persons, are alone prescribed, and the principles according to which the

control of the milk supply should be effected, in order that it may combine the conditions required in establishments for the treatment of patients by milk, are indicated. In the latter localities the authorities do not care whether or not their recommendations and indications are attended to, but they entrust the customs servants with an official recommendation to be given to the proprietors of those establishments who will submit to the authoritative instruction.

The following is a form of contract which we (Lydtin) have drawn up for the administration of the town of Karlsruhe; it embodies the principal precautions to be adopted with regard to milch cows in dairies. "Contract between Mr. . . . of the one part, and the Local Board of Health of . . . . represented by the magistrate . . . . of the other part. The Local Board of Health hereby controls the production and the sale of milk in Mr. . . . .'s dairy. Mr. S. . . . on his part undertakes:—

"1. Only to provide milch cows of breeds which usually furnish good milk; more especially to employ cows which have had two to six calves, and not to keep older cows; to exclude all cows which lose condition, have dull coats, cough or nasal discharge, have swellings about the neck, prepectoral region, or between the thighs, lower part of chest or abdomen—tumours which are due to an alteration in the lymphatic glands or subcutaneous or dropsical infiltration; finally, not to have as milch cows those which exhibit symptoms of Nymphomania;

"2. To have the temperature of the milch cows taken in the rectum every day, so as to ascertain their state of health; to remove, on the advice of the veterinary surgeon, every milch cow whose temperature is above the normal standard (38·5° to 39° Cent.), or which presents any other symptom of disease, and not to sell the milk of such animals without the permission of the veterinary surgeon; not to sell for consumption the milk of newly-calved cows until fifteen days after calving, and provided the animals remain healthy during that time;

"3. The cow-sheds to be kept well-ventilated and clean, and neither pigs, dogs, nor fowls to be kept in them;

"4. To feed the cows conformably to the indications furnished by the Local Board of Health, excluding from their diet the

residue of breweries, distilleries (grains), and kitchens, the leaves of root-crops, August turnips, garden and field weeds, spoiled hay, and generally all damaged alimentary matters; to give spring water to drink; to cleanse from time to time by means of hot water or a solution of potash all the utensils out of which the cows receive their food or drink; not to feed with green forage except with the sanction of the Local Board of Health;

"5. To have written on a placard in a conspicuous part of the shed, the ration allowed by the Board for the milch cows;

"6. Not to allow any sick person, or one who is recovering from an infectious disease, to interfere in any way with the milking of the cows, or in collecting, preserving, conveying, or selling the milk;

"7. To keep all the vessels which hold the milk scrupulously clean;

"8. Not to milk the cows, generally, except in the morning and evening, to measure the milk at each period, and enter the quantity on a card in the shed or dairy, and to inscribe it in a register *ad hoc*;

"9. To mix the milk obtained from the healthy cows, find the specific weight of this mixture, and to register this also;

"10. To cool rapidly all the milk which is not to be at once used naturally, or for butter or cheese, using a refrigerating machine; not to add anything foreign to it;

"11. In the production of milk from goats to apply the same procedure;

"12. To permit access to all parts of the establishment concerned in milk production, of every member of the Board of Health.

"Mr. . . . . engages, in addition, to conform to any special measures that the Board may consider necessary to prescribe."

We do not know of a more efficacious means than that of the control of the health of the cows, and the collection, preservation, and sale of the milk. It may be added, however, that this control, which gives good results in certain cases, leaves something to be desired, with regard to its application, in the generality of dairies.

A minute inquiry into the ways and means of preserving

mankind from the danger with which they are threatened by the employment of the milk and flesh of tuberculous cows, brings us to the conclusion that if the inspection of cattle intended for slaughter and those kept for milk production, even combined with that of the meat and milk offered for sale, does not afford security, in relation to the expense it involves, yet it cannot be ignored that it constitutes a useful, nay, a necessary measure.

The utility of this inspection of meat and control over the milk supply in countries where they are in force, is so great that the necessity for maintaining and improving these preventive measures cannot be doubted. But, nevertheless, an analysis of the facts and a consideration of the results obtained show, that this inspection and control are not sufficient to afford a sufficient guarantee to mankind against the real and undeniable danger of the possible transmission of Tuberculosis through the medium of the flesh and milk of phthisical cows; neither does this control suffice to preserve the public wealth from the damage it sustains through this malady. We should therefore endeavour to find other means which may afford more efficient protection from the danger; and it is this search for a real preservative which imposes a heavy and urgent task on the veterinary profession.

Since Villemin's discovery, veterinary surgeons have found themselves in a very difficult position, they being, as it were, between Scylla and Charybdis: urged, on the one hand, to completely exclude from public consumption the flesh of tuberculous cattle, which the progress of science has shown to be infective; and solicited, on the other hand, not to sanction so radical a measure, as the instances in which human health has suffered from its use must necessarily be very rare, and the danger proposed to be averted being yet but little appreciated by the great majority of the public, such a rigorous measure would not be approved. In dealing with such a question, we must reckon seriously with public opinion, as the measures necessary in this instance will gravely affect the interests of the butchers, as well as the breeders, feeders, and other owners of stock, and will demand considerable expenditure to ensure efficacious inspection of slaughter-houses and the sale of meat.

(To be continued.)

Editorial.

THE ARMY VETERINARY DEPARTMENT.

THE rapidly increasing importance of the veterinary profession is, perhaps, nowhere so marked as in its relations to the army service and to warfare in the field. The advancement which has been made in the position of army veterinary surgeons, and in the estimation in which they are held by military authorities, striking as it is for its rapidity, is largely due, not only to the higher standard of general and professional knowledge which they must possess, but also to the zeal and intelligence with which they employ that knowledge, and the earnestness and fidelity they display in the performance of their duties. They have won their position by their own efforts, and under what might be deemed most unfavourable circumstances; for there can be no doubt that, for very many years, they were looked upon unfavourably and jealously by those who had it in their power to keep them under, and to prevent their enjoying rights and privileges open to others who had no better claim to them. It must be confessed that the efforts required to attain what has been so well achieved, have neither been light nor few, and a large amount of sustained courage has been required to meet and overcome the obstacles thrown in their way.

Before the Crimean War the number of army veterinary surgeons was very small, and their services were reckoned of little moment. Since that time, and more especially within the last few years, their number has been increased nearly tenfold, while with regard to their position they stand on an equal footing with other officers, all invidious distinctions having been swept away. With regard to emoluments a great improvement has also taken place, the pay and allowances of the veterinary surgeons now joining the army being three times more than the remuneration allowed a quarter of a century ago, the pay and allowances, as well as the pension, of the higher grades being proportionately increased. With this increase in the pay and position of the army veterinary surgeon, however, his responsibilities have correspondingly increased, and the skill and varied requirements which he is presumed to possess are more severely tested. In recent times it may be said we have had a constant succession of wars, in which the Veterinary Department has been called upon to play a more or less important part; and as these wars have unfortunately been carried on in distant and barbarous countries, where great numbers of animals of different kinds have had to be employed, the knowledge, tact, and training of the veterinary officers have been severely tried, while at the same time they had to undergo the hardships and effects of climate to which their brother officers had to submit.

The recent campaigns in the Soudan—on the Red Sea and the banks of the Nile—have demonstrated what these hardships really are; more than one-half of the large number of veterinary surgeons engaged have suffered from sickness or been invalided. It has been imagined, by those who know but little of the subject, that the army veterinary surgeon leads a

comparatively idle life, and devotes nearly all his time to recreation and frivolity; this is assuredly not the case. Even in peace time, if he performs his duty as he ought to do, and keeps himself abreast of the medical science of the day, as well as making himself acquainted with general literature and current events—which all who mix with their fellow-men should do—his whole time is pretty well occupied; besides, he has to prepare himself to undergo examinations for promotion at stated periods, which require constant application and close observation. But it is in war that his abilities and fortitude are tried to the very utmost, and recent experience has shown that few officers in the field have more anxious and exacting duties to perform than our army colleagues. So highly are the services of veterinary surgeons now valued in the field, that among the first inquiries of a general who is about to assume the command of troops on active service, is one as to the number of veterinary officers he is to have, and his pressing desire to secure, if possible, a large surplus of them. On the manner in which they discharge their duties the success of a campaign may largely depend, and in the future they will have to play a more prominent part than they have perhaps had imposed upon them in the past. In addition to the animals to which they have been accustomed at home—as the horse, ox, and ass—they usually have in their charge elephants, camels, and sometimes buffaloes, which require special management and medical knowledge; and to carry on their duties satisfactorily demands an amount of resource, self-possession, and tact rarely needed in civil life. In proportion as these qualities are manifested, so does the Department, through its individual members, rise in value and esteem, while the individuals themselves receive their well-earned reward. It must not be forgotten that the peace training of a veterinary officer is with the view to the special application of his professional knowledge to meet the demands of war, and to this all his attention should be directed. How to maintain animals in health and efficiency in the field, or to restore them quickly to usefulness when sick or injured, is the object to which his attention must be chiefly directed, and it is one which demands a wide and exact degree of knowledge and experience. In acquiring this, and in making it known, he is advancing science in one or more of its branches, and the history of the Veterinary Department of the British army abundantly shows that the opportunities our colleagues enjoy for study and observation have been turned to good account, for the benefit, not only of veterinary, but also that of human medicine in several of its branches. The Department is yet far from having reached its zenith, and the care exercised in selecting candidates, as well as the spirit which animates these when they have gained admission to its ranks, ensures further rapid progress and increased approbation.

As an integral part of the British army, the Department now enjoys a position which at one time could scarcely be hoped for, and its future, we trust, will be as bright and successful as its past had been discouraging, and it may be heartily congratulated on the result of the ordeal it has had to pass through.

HORSE-POX IN A COLT.

In the *Revue Vétérinaire* for March, 1884, M. Labat describes a case of Equine Variola in a colt two and a half years old, the peculiarity of which was the development of the characteristic pustules on the conjunctiva. The exanthem appeared on the conjunctiva of the left eye, chiefly towards the margins of the eyelids and the canthi, in the form of granules, varying in size from a pinhead to that of a small lentil, and arranged in little groups. Coincidently, there was intense conjunctivitis, superficial keratitis, and evidence of great pain in the eye. The nature of the ocular eruption was revealed by a concomitant eruption on the nose, around the left nostril, and on the upper lip. In order to demonstrate that the ophthalmia was due to the eruption of Horse-pox on the conjunctiva, a heifer was inoculated with the muco-purulent discharge obtained from the canthus of the inflamed eye, with the result that at the seat of inoculation there were developed and well-defined Cow-pox pustules.

BURSÆ MUCOSÆ.

BY PROFESSOR F. EICHBAUM, OF GIESSEN.

(*Continued from p.* 106, *vol. xx.*)

It is very instructive to treat this tissue with gold-chloride, for we then learn that the cells are more or less separated from each other by a large quantity of finely-striped intercellular substance, whereas in endothelial tissue the cells lie close together.

At this zone, we are dealing with a transition tissue from endothelial cells to cartilage cells, as has been observed by Tillmanns* and Colonnatti† on the internal surface of the tendon of the M. extensor cruris quadriceps of man, and by Bohm‡ on the edges of articular cartilages.

The transition, as we have seen, takes place by gradually pushing the cells asunder; they then change their form, the fine granular protoplasm becoming homogeneous and hyaline; at the same time they assume a strongly refractive dark contour, which distinctly separates and marks them from the surrounding tissue. The whole of the posterior surface of the sesamoid bones are covered with fibro-cartilage, and the transition of the synovialis from the edge of the cartilage to the endothelial membranous portion can be easily traced. On examining the passage of the synovial wall to the ring-form tendinous plate, we find the endothelial lining ceases at the commencement of the ring, and the cartilage cells commence as soon as we get level with the superior border of the sesamoid bones. The same is the case on the part which is in apposition with the perforans and that covering the tendon itself, as well as the anterior part of the perforatus tendon where it plays over the sesamoids. Even on microscopically examining these parts, a duller appearance—resembling cartilage—is recognised, and the synovialis, which at other parts has a subsynovial connective tissue, unites to the cartilage and is lost as a distinct membrane. A similar appearance is seen when the sheath and tendon of the perforans tendon of the hind limb is examined. Where it plays over the calcis it presents a cartilaginous covering, whilst the other parts of the sheath of the tendon, as well as the mesotenon, possess a continuous layer of epithelial cells.

* Archiv fur mikroskop Anatomie, 1874, s. 418. † l. c. ‡ l. c., s. 10.

The foregoing shows that the sheaths, as well as the surface of the tendon of the extremities, as a rule, possess an endothelial lining, and that only those places which have—even macroscopically—a cartilaginous appearance and continually brought into friction, are exempt.

It has already been pointed out at the commencement of this paper, that the structure of these organs differ under different conditions of development; *e.g.*, those we have just been considering have an intra-uterine development, whilst the subcutaneous bursæ only arise *post-partum*. This difference in the time of the appearance produces—as will be shown below—differences in their structure.

The following are the chief subtendinous bursæ that have been examined during these researches:—Bursa intertubercularis, Bursa coraco-brachialis, Bursa musc. infraspinati, B. musc. anconai longi (Caput magnum), Bursa calcanei, the mucous bursa under the tendons of the stifle-joint, the bursa under the median insertion branch of the Flexor metatarsi, the bursa under the tendon of the Extensor pedis at the anterior part of the fetlock-joint, the Bursa vaginalis under the tendon of the perforatus at the calcis, the Bursa synovialis under the origin tendon of the perforans at the elbow-joint, and, finally, the Bursa synovialis under the Extensor pedis at the stifle-joint. Speaking generally, we may say all typical bursæ possess the same structure as we described above for the sheaths of tendons.

No differences can be detected either with regard to the arrangement of the connective tissue or the size of the endothelial cells. The mucous bursæ often possess cartilaginous places in their endothelial layer, similar to that in the last tendon sheath we described, and the transition from the one part to the other appears the same in both. Those Bursæ mucosæ which do not possess any cartilaginous places in them, are the Bursa coraco-brachialis, B. anconei longi, B. glutei medii (Gluteus maximus), B. calcanea, the bursa under the tendons of the stifle, the bursa under the fan-like insertion branch of the M. tibialis anticus, and the bursa on the anterior surface of the fetlock. On the other hand, we find cartilaginous tissue inserted in the B. vaginalis of the perforatus of the hind limb, viz., on that part which lies on the Tuberositus calcanei, as well as that covering the tendon itself; the B. intertubercularis on the anterior part of the head of the humerus and on the Flexor brachii, the lateral walls of the B. musc. infraspinati and on the above-mentioned Bursæ synoviales when they unite to the tendon as it passes over the borders of joints. They serve to protect the parts during friction, and possess a dull, glistening, cartilaginous appearance. The synovial membrane cannot be recognised at these places.

The subcutaneous mucous bursæ are quite different from these. We have examined those on the inferior spinous process of the ilium, olecranon, and calcis.

Preparations treated with a solution of silver *in situ*, present a uniformly brown-coloured inner surface, with numerous clear, stellate spaces of various sizes and shapes, having processes which unite with each other; altogether the preparation presents a very similar appearance to the cornea treated in the same manner. Each of these spaces contains a large oval or round nucleus. This appearance is frequently broken by more or less extensive places, where the brown intermediate substance is reduced to small winding and frequently nodulated lines or borders, surrounding white polygonal or spindle-shaped fields with large oblong nuclei, plainly showing the presence of an endothelial membrane. These cells vary in their long diameter from 0·030-0·036-0·045 mm., thus they are three or four times larger than the endothelial cells described above. They seem to run in rows through the specimen, and often come in close contact with the clear star-shaped spaces of the brown ground-substance. These places possess a very striking

resemblance to the lymphatic tissue described by Recklinghausen in Stricker's book, "On the Study of Tissues" (Gewebelehre), also with preparations from the Centrum tendinum of the diaphragm after the endothelium is mechanically removed; and to my mind there is no doubt that in these mucous bursæ we are dealing with lymphatic tissue; and those authors who have described these bursæ as possessing a partial lining of endothelial cells have confounded these lymphatic endothelial cells with the endothelial lining found on synovial membranes. We have always found the same structure in all the bursæ that we have examined, and have never seen a continuous layer of cells as is the case on synovial membranes. If the silver layer is removed by hyposulphite of soda, a few round or oval nuclei are seen on the surface of the preparation. The same is the case if hæmatoxylin without the silver is used. The internal boundary walls of these bursæ are formed of fibrillated tissue with numerous spindle-formed nuclei and elastic fibres, with fat distributed here and there. From the above we assume that there is no endothelial lining to the subcutaneous bursæ, and that they are simple spaces or large *lacunæ* in the subcutaneous tissue, due to laceration or tearing from the movement of the skin. Thus we may say that these structures have an analogous origin to the sheaths of tendons, serous sacs, and bursæ generally, which arise from a mechanical splitting of the middle germinal layer, although the time of their formation and structure are different. If these spaces are formed during intra-uterine life, we usually find them lined by a complete endothelium; if they are formed after birth a cellular lining does not appear, but the walls are formed by a somewhat compact connected tissue. We must, however, add —as does His,* speaking generally, and Lowe,† when speaking of spaces in inter-parenchymatous connective tissue—that the structure of mucous bursæ change with age; for instance, subcutaneous bursæ formed in early youth can produce a partial endothelial lining, although it may not be complete. This is owing to the greater productivity of the young body. We have, however, as stated before, never seen these subcutaneous bursæ so lined in any of the numerous specimens we have examined; therefore, we hold that these spaces in the subcutaneous connective tissue may be distinguished from serous cavities by their histology, but not from their mode of origin and development. The fluid they contain is lymph, which flows into them from the lymph spaces in the neighbouring connective tissue.

After the results of our researches the question arises, where the tendon sheaths and typical mucous bursæ that possess an epithelial lining should be placed. This at present is difficult to answer. It cannot, however, be denied that, if these membranes are compared with serous membranes, a number of weighty facts present themselves to warrant us in thinking that the synovial membranes belong to the serous class. In both we find fibrillated connective tissue and elastic fibres, with a stratum of a specific nature on it, viz., a single layer of endothelial cells. These so resemble each other in each case that no differences can be detected, and no distinctions can therefore be seen whereby to separate them. When considering this question, there is one fact worth remembering, and that is, that the endothelial layer is sometimes broken in bursæ and sheaths, viz., when fibro-cartilage is inserted, a circumstance which never takes place in serous membranes. Even here we can with justice object to this as a distinction between the two structures, because the cartilage is not present at all ages; it only forms after the muscles and tendons are used. Todd and Bowman,‡ and after

* l. c. S. 25.

† "Zur Kenntniss der Bindegewebe, *Arch. f. Anat. u. Entwickelungagesch.*" Von W. His und W. Braune. 1878.

‡ "Physiolog. Anatomy," 1847. I., p. 90.

them Reichert,* showed that these cartilages have an endothelial covering when they are first formed. Our own researches have demonstrated that in the fully-developed, although unborn fœtus, as well as in newly-born foals, the cartilages of the Bursa intertubercularis, and the B. musc. infraspinati, and the tendon sheath of the perforans at the posterior part of the fetlock-joint, are absent at those places where they are present in older animals; and at this age they are covered by a continuous layer of epithelium.

Again, the fact that both serous and synovial membranes possess true endothelial papillæ goes a great way to prove their similarity, as does also the resemblance of their respective pathological changes.

Finally, the history of development of the two structures, given above, is sufficient to identify a connection between them.

Although we find many important common facts respecting their genesis and structure, we can, on the other hand, detect differences; for instance, the fluid contents of tendon sheaths and mucous bursæ contains a quantity of mucin and albumin. However, our knowledge of the chemical composition and formation of synovia is so deficient and unfinished, that we cannot positively state the conditions under which it appears, or why it contains mucin and so large a quantity of albumin, especially in the above structures, where it is normally found in such small quantities.

Frerich† and Tillmanns (l. c.) say that synovia is a transudation from the neighbouring vessels, the mucin being obtained by a degeneration of the endothelial cells lining the capsule. Huter‡ says it is the nutritive fluid of the body percolating through the connective tissue cells, and obtains its mucin from them in doing so. Finally, Soubbotine (l. c., p. 563) holds that it is a product from the cells themselves—*i.e.*, the membrane is a secreting tissue. Pflüger§ also held the same opinion with regard to serous membranes when he was studying them from another point of view.

After the foregoing general description of the appearance and structure of the sheaths of tendons and mucous bursæ, we will now give a short detailed description of these organs as they are found in the various regions of the horse's body.

1. The "Bursæ mucosæ" and "Vaginæ tendinum synoviales" of the

HEAD.

(*a*) *Subcutaneous Bursæ.*

These are relatively seldom found on the head; they have, however, been seen several times on the crest of the occiput (Linea semicircularis superior h.s.), external occipital protuberance (Fleming), viz., on that part where it joins the median line (antero-posterior ridge) (Fleming), on the anterior surface of the bone, also at the angle of the inferior maxilla. They have been once seen (in an old horse used for anatomical purposes) on the zygomatic arch, viz., at the place where the zygomatic process of the temporal unites to the orbital process of the frontal bone.

(*b*) *Subtendinous Bursæ.*

Bursa mucosa over the Protuberantia occipitis externa and under the origin of the upper part of the common muscle of the ear (*M. communis auris*) (temporo-auricularis externus of Fleming). It is usually divided into two halves by a septum, each half being oval-shaped, and from 2·0 to 2·5 ctm. in length. In all cases when this bursa was present the crest of the occiput was very prominent.

* "Archiv f. Anat.," 1849. Jaresber. S. 16.
† Wagner's "Handwörterbuch der Physiologie." III. Bd. 1, abth.
‡ "Klinik der Gelenkkrankheiten."
§ Pflüger, "Ueber die Eierstöcke der Säugethiere und des Menschen," 1863, S. 33-35.

Tendon sheath of the M. levater labii sup. propr. (Supermaxillo-labialis) (Fleming) is not a completely-developed sheath, because no sharply-defined space can be detected between it and the surrounding connective tissue, but it forms loose cellular meshes of various size around the tendons as soon as they leave the muscles on either side (*i.e.*, about the level of the angle formed by the Oss. nasal. and the Proc. nasalis of the Oss. intermaxilaria) to the point where they unite to each other.

Bursæ vaginalis on the M. stylo-hyoideus (for the passage of the intermediate tendon of the digastricus) is constantly present. It is a very delicate, thin, synovial membrane, and passes from the border of the sheath-like portion of this muscle on to the tendon of the M. digastricus, to which it is united.

Bursæ mucosæ on the point of the spur process (anterior appendix) of the Os. hyoideum was found in one instance. It was oval in form, length 2 ctm., and situated about 1 ctm. from the point of the process in the median line, between the superior surface of the M. genio-hyoidei and the tendons of the genio-glossi muscles.

Bursæ mucosæ on the lateral (outside) surface of the Hamulus ossis pterygoidei is constantly present. It is situated between the concave lateral surface of the hamular process of the pterygoid bone and the medial surface of the tendon of the Tenser veli palatini (Peristaphyleus externus) (*Fleming*), on the borders of which it is inserted; it is also united to the transverse ligament which holds the tendon in its position.

Bursæ mucosæ between the pulley and M. obliquus superior of the eye. It is about the size of a bean, and frequently covers both sides of the tendon like a sheath.

II.—On the Neck.

Bursa mucosa under the origin of the Ligamentum nuchæ and above the capsular ligament and superior surface of the atlas and part of the M. recti capitis postic. minor (small posterior straight muscle) (*Fleming*). It is bounded laterally by the Rect. cap. post. maj. muscles, and reaches anteriorly as far as the insertion of the Lig. nuchæ to the occiput. It is very frequently present, and its long diameter is about 3 to 5 ctm., and in one case 10 ctm.

Bursa mucosa under the lamellar portion of the lig. and about level with the second cervical vertebra (dentata). This not unfrequent bursa often reaches a large size (even the size of an apple), and is situated between the two branches which the superior spinous process (or crest) of the dentata divides into, viz., where the two sides of the funicular portion are inserted on the one hand, and the lamella on the other. In many cases the bursa is placed in the space formed by the two halves of the funicular portion of the ligament at this part, to a depth of from 1·5 to 1·0 ctm. The bursa is bounded on the outside by the MM. complexi, with whose internal (medial) surfaces it is united by loose connective tissue.

Bursæ mucosæ between the tranverse processes of the third, fourth, fifth, and sixth cervical vertebræ and the faciculi of the muscle covering them (M. complexus major). They vary from the size of a hazel to a walnut, and are frequently present.

Bursa mucosa on the level with the sixth cervical vertebra, between that part of the Scalenus infer. which arises from the tranverse process of the first dorsal, to join the rest of the inferior portion of the muscle and fleshy faciculi of the M. longus colli. It was found in one instance.

Bursæ mucosa between the inferior surface of the first dorsal vertebra and a tendon of the thoracic portion of the M. longus colli. It was elongated (5 to 6 ctm. long), the posterior part of the bursa was on the level with the neck of the rib-bones (Collum costæ), and its anterior with the transverse processes of the seventh cervical vertebra. Almost constantly present.

Bursa mucosa, elongated in form, under the insertion tendon of the M. longissimus dorsi on the seventh cervical vertebra. Very frequently present.

III.—The Body (*Trunk*).

(*a*) *Subcutaneous Bursæ.*

Bursa mucosa above the withers. Frequently found, and usually over the superior spinous processes of the fifth to the seventh dorsal vertebræ. Sometimes this bursa is divided by incomplete septa into several parts.

Bursa mucosa subcut. over the superior spinous processes of the first and second lumbar vertebræ. Frequently seen, and about the size of a walnut.

(*To be continued.*)

THE FELLOWSHIP DEGREE.

At a meeting of the examiners for the Fellowship degree, held on June 25th and 26th, the following members presented themselves for examination, and were successful in passing: F. W. Wragg, London; W. Wilson, Berkhampstead; W. J. Mulvey, Bishop's Auckland; H. L. Simpson, Windsor; J. F. Simpson, Maidenhead; W. F. Peacock, London; G. G. Mayor, Kirkham; T. Campbell, Kirkcudbright; P. Walsh, Ballina; W. Awde, Stockton-on-Tees; J. G. Cross, Mardol.

THE FITZWYGRAM PRIZES.

The competition for these prizes took place on 12th May and June, nine candidates entering their names, but only six competing. The examiners were Mr. J. Matthews, Royal Horse Guards; Mr. S. Locke, Manchester; and Mr. A. W. Hill, Sec., R.C.V.S. Mr. J. S. Lloyd (Dick Veterinary College) gained the first prize (£50); Mr. J. Moore (New Veterinary College) second prize (30); and Mr. A. Cawdle (Royal Veterinary College) third prize (£20).

NEW MEMBERS OF THE PROFESSION.

At the meetings of the Court of Examiners of the Royal College of Veterinary Surgeons, held on the 6th, 7th, and 8th July, 1885, the following students from the Royal Veterinary College were admitted members of the profession:—

Mr.	C. W. Marshall	King's Lynn
„	M. G. Byerley	Great Grimsby
„	W. Ascott	Bideford, North Devon
„	W. Collins	Brighton Road, Worthing
„	J. C. Coleman	Camden Town
„	G. Boulton	Wolstanton, Staffordshire
„	G. H. Gibbings	North Tawton, Devon
„	W. Folsetter	Evansville, Indiana, U.S.A.
„	E. Crundall	New York State, U.S.A.
„	J. F. Farrington	Harold's Cross, Dublin

The following students passed their *Second Examination* on the 9th July, 1885:—

Mr. A. Johns
„ H. F. Reynolds
„ T. V. Pettifer
Mr. T. N. Clarke
* „ G. Hurford
* „ W. Stevenson
Mr. J. R. Bathew.

The following students passed their *First Examination* on the 10th, 11th, 13th, and 14th July, 1885:—

†Mr. J. A. W. Dollar
„ J. E. Allen
* „ F. B. Drage
„ J. Wooding
„ W. Owen
* „ E. R. McHugh
* „ T. E. Barcham
„ F. B. Ditmas
„ W. W. Goldsmith
„ F. Harvey
„ S. B. Baker
„ J. A. Worsley
† „ F. W. Watchorn
* „ A. E. Branch
* „ H. Hall
† Mr. J. Healy
* „ L. Mitchell
„ J. A. Legg
„ A. Crapp
„ J. W. Crowhurst
„ W. A. Clifford
* „ S. Wharam
„ R. Wilson
„ A. C. Newsom
† „ T. A. T. Hutton
* „ T. L. Bickford
„ W. J. Moran
„ T. Spencer
* „ F. Aulton
„ W. H. Willsher

* Marked thus passed with "Great Credit."
† Marked thus passed with "Very Great Credit."

Proceedings of Veterinary Medical Societies, &c.

ROYAL COLLEGE OF VETERINARY SURGEONS.

Special Meeting of Council held June 17th, 1885.

J. Roalfe Cox, Esq., President, in the chair.

Present:—The President; Professors Duguid, Pritchard; Dr. Fleming; Messrs. J. F. Simpson, Greaves, J. Harpley, Barford, Wragg, Blakeway, Dray, and the Secretary.

The Secretary read the notice convening the meeting.

The minutes of the last meeting were read and confirmed.

Letters regretting their inability to be present at the meeting were announced as having been received from Messrs. Taylor, Cartledge, Woods, Whittle, Cartwright, and Perrins.

The diploma of Mr. Hugh Sim, a holder of the Highland and Agricultural Society's certificate, was signed in the usual manner.

The Secretary stated that several letters relating to unregistered practitioners had been received from members of the College.

On the motion of Mr. Harpley, seconded by Mr. Blakeway, the letters were referred to the next meeting of the Registration Committee.

Reports of the Examinations.

The reports of the April Examinations held in London, Edinburgh, and Glasgow, were read.

Correspondence.

The SECRETARY read a letter from Mr. Thatcher, the Solicitor to the College, confirming the opinion he had expressed at the last meeting, that it was illegal for the Council at that time to transact any other business than the appointment of officers.

It was ordered that letters from three societies—the Lancashire Veterinary Medical Society, the Scottish Metropolitan Veterinary Medical Society, and the Central Veterinary Medical Society—referring to Fellowships, should stand over for consideration until the next quarterly meeting.

The SECRETARY said a letter had been received from Mrs. Clarke, asking for some assistance from the College on behalf of Mrs. Hannah Bowles. It had been customary for the Secretary to reply to such letters and say that he would put them before the Council, at the same time expressing regret that they were not able to assist. Mr. Bowles was a member of the College, but died many years ago.

Mr. GREAVES said if the matter were left to him he would lay it before the Committee of the Benevolent Society, who could please themselves as to whether or not they would step out of their ordinary course; but Mr. Bowles was not a member of the Society.

Mr. DRAY asked if it was proposed to take any action with regard to Mr. Thatcher's letter.

The PRESIDENT said his impression was that no action should be taken, but he would be pleased to hear any suggestion that might be made on the subject.

Mr. BARFORD supposed that the letter would be entered on the minutes as a guide for future action.

Mr. HARPLEY said it would have to come before the next quarterly meeting.

The subject of the letter was thereupon ordered to stand over till the next quarterly meeting.

The following committees were then appointed :—

Parliamentary Committee.

Professors Brown, Robertson, Pritchard, Duguid; Sir F. Fitzwygram, Dr. Fleming; Messrs. Cartledge, Greaves, Harpley, H. L. Simpson, Barford, and Whittle.

Museum Committee.

Professors Pritchard, Axe, Duguid; Messrs. Dray, Wragg, and J. F. Simpson.

Finance Committee.

Messrs. Cartwright, Dray, Greaves, Harpley, Taylor, Wragg, Whittle, and Blakeway.

House and Building Committee.

Professors Pritchard, Robertson; Messrs. Greaves, Harpley, H. L. Simpson, Wragg, Whittle; Dr. Fleming, Mr. Dray, Sir F. Fitzwygram, and Mr. Barford.

Registration Committee.

Professors Pritchard, Robertson; Messrs. Cartwright, Dray, Greaves, Wragg, Whittle; Dr. Fleming, Messrs. H. L. Simpson and J. F. Simpson.

Library Committee.

Professor Axe, Professor Robertson, Mr. Blakeway, Mr. Harpley, Dr. Fleming, Professor Pritchard.

Examination Committee.

Sir F. Fitzwygram, Mr. Harpley, Mr. Woods, Mr. Wragg, Mr. Greaves, and the Principals of the different schools.

Bye-Laws Committee.

Sir F. Fitzwygram, Professor Pritchard, Professor Williams, Professor McCall, Mr. Cartledge, Mr. Greaves, Mr. Harpley, Mr. H. L. Simpson, Mr. Wragg, Dr. Fleming, Professor Duguid, Mr. Whittle, Mr. J. F. Simpson, and Professor Walley.

Dr. FLEMING thought that the Committee should commence their work at an early date, as it had been postponed for some years.

Professor PRITCHARD quite agreed with this suggestion.

Dinner Committee.

Professor Pritchard, Mr. H. L. Simpson, and Mr. Wragg.

The Examinations.

The SECRETARY asked that the examinations might commence on July 6th. The three examinations would occupy about eight days.

Professor PRITCHARD said there was a notice of motion with regard to that matter.

The SECRETARY said that would have to be considered at the next quarterly meeting. If there were one student still under the old rules the Principals could claim examination. He had already been written asking when the new *régime* of only two examinations annually was to commence.

Dr. FLEMING thought that those who studied before the new law was passed could claim to be examined under the old rule, but unless a certain number, eight or nine, came forward there could be no examination.

Professor PRITCHARD said that counsel's opinion had been obtained, and if only one man came forward the College was bound to examine him.

The PRESIDENT said that such a point could easily be arranged with the Principals of the schools.

Professor PRITCHARD asked if it was known what number of students under the old *régime* were coming up from Edinburgh and Glasgow.

The SECRETARY said he did not know; each time he had asked the Principals he had been told that there were sufficient to require a Board.

The PRESIDENT said this concluded the business of the meeting.

Mr. GREAVES respectfully suggested to the President, at the commencement of his year of office, that he should, when possible, call the committee meetings for the same day as the quarterly meetings. It would be very inconvenient for gentlemen living at a great distance from London to attend committee meetings on other days. They might be held on the same day as the quarterly meetings.

The PRESIDENT said there were more committee meetings than quarterly meetings, and therefore it might be very difficult to carry out the suggestion, but he would do all he could to prevent the inconvenience.

Dr. FLEMING said the number of Honorary Associates had of late been rapidly diminishing. Last year he was remiss in neglecting to mention the name of a member of the profession in Brussels, who was extremely kind to

him when he attended the Conference on behalf of the College. He alluded to M. Hugues, who was an army veterinary surgeon, and whose name stood very high in veterinary circles in Belgium. He would therefore now propose him as an Honorary Associate. The Council had to a great extent neglected to recognise the Australian colonies. There were excellent men there who could not come to England to be examined, and it would be extremely gratifying to them if their *Alma Mater* recognised their services and position. He proposed as Honorary Associates—Mr. Calvert, of New Zealand, Mr. Chalwin, of Adelaide, and Mr. Willows, of Sydney. Mr. Calvert had attained an excellent position in New Zealand, Mr. Chalwin was the Veterinary Adviser to the Government at Adelaide, and Mr. Willows was Veterinary Surgeon to the Australian Contingent at Suakin.

Mr. DRAY seconded the proposals, which were unanimously agreed to.

The next quarterly meeting was fixed for July 3rd.

Additional Fellowship diplomas were ordered to be printed.

The proceedings of the Council then terminated with a vote of thanks to the Chairman.

QUARTERLY MEETING OF THE COUNCIL, HELD JULY 3RD.

J. ROALFE COX, Esq., President, in the chair.

The following members of Council were present:—Dr. G. Fleming, Professors Robertson, Pritchard, and Axe; Messrs. J. F. Simpson, H. L. Simpson, B. Cartledge, W. Simcocks, F. W. Wragg, W. Duguid, J. S. Carter, E. C. Dray, W. Whittle, T. Greaves, W. Mulvey, A. Santy, P. Taylor, F. Blakeway, W. Wood, H. J. Cartwright, H. R. Perrins, and A. W. Hill (Secretary).

The SECRETARY read the notice convening the meeting, as also the minutes of the previous meeting, which were confirmed.

The SECRETARY also announced that letters had been received from Professors McCall and Walley, and Mr. Barford, of Southampton, expressive of their regret at inability to attend.

Presentation to the Museum.

On the motion of Mr. DRAY, seconded by Mr. P. TAYLOR, a vote of thanks was passed to Mr. Naylor, of Wakefield, for his presentation of an interesting specimen of diseased pedal bone and hoof of a colt following an injury.

Honorary Associates.

The certificates conferring this title upon Messrs. Hugues (Belgium), Calvert (New Zealand), Chalwin (South Australia), and Willows (New South Wales), were duly signed by the President and Vice-Presidents.

Correspondence.

The following letter from Mr. Geo. Thatcher, Solicitor to the College, was read, and ordered to be placed upon the minutes and printed in the Journal:

"19, Bennet's Hill, Doctors' Commons, London, E.C.

"*2nd June*, 1885.

"Dear Sir,—I have read the Charters with a view of ascertaining what business can be transacted at the first Council meeting after the annual meeting, and am of opinion that all that can be done at that meeting is the appointment of President, Vice-Presidents, Treasurer, Registrar, and Secretary. The doubt which has arisen on the subject is caused by what

would appear a contradiction in terms in the Charter of 1844. I have no doubt that it was the original intention either that all Vice-Presidents should be elected at the annual meeting of members, or that they should be selected by the Council out of their own number. Could either of these courses be adopted, any business could be transacted on the first Council meeting after the annual meeting; but unfortunately the Charter directs that any member of the College, whether a member of Council or not, is eligible for the office of President or Vice-President, and on election becomes an ex-officio member of the Council; and it says subsequently that they are to be elected at the first Council meeting. This leads to the difficulty which arose yesterday, that gentlemen may become members of the Council whom it is impossible to summon to the first Council meeting, because until their election as President or Vice-Presidents at the Council it cannot be known who they are. I have considered the question, whether a meeting of the old Council could be summoned after the annual meeting and before the first meeting of the new Council, but I do not think it would be legal; it would certainly be against the spirit of the Charter, and no election of committee under it would be valid, as Bye-law 18 expressly states that committees should be elected by the Council from its members, and it is not known who all these members are until after the election of the President and Vice-Presidents at the first Council meeting. The waste of time to so many members of Council occasioned by the present Charter is greatly to be regretted, but without some alteration of the Charter is, in my opinion, unavoidable. I remain, dear sir, yours faithfully, "GEO. THATCHER.

"A. W. HILL, Esq.,
"Secretary Royal College of Veterinary Surgeons."

Communications from the Scottish Metropolitan Medical Veterinary Society, the Central Veterinary Medical Society, and the Lancashire Veterinary Medical Association were also read, suggesting amendment of Clause 9 of the Supplemental Charter, in connection with the Fellowship degree.

Finance Committee.

The report of this Committee was then read and cheques were ordered to be drawn for current liabilities, and it was further ordered that £700 should be placed to deposit with the bankers to form part of the general account of the College. The Committee also advised the signing of cheques drawn to meet liabilities.

Mr. CARTLEDGE asked why the £700 could not be invested in railway debentures, which would yield a higher rate of interest than that given by the bankers.

The SECRETARY replied that the money would in all probability be wanted in a very short time, and the account would have to be drawn upon; therefore it was advisable not to invest it in any permanent security.

The report was then unanimously adopted by the Council.

Fellowship Degree.

The report from the Examiners for this degree was also adopted. It contained the names of the following successful candidates:—Messrs. P. Walsh, W. Wilson, H. L. Simpson, T. Campbell, F. W. Wragg, W. T. Peacock, J. F. Simpson, G. J. Mayor, W. J. Mulvey, W. Awde, and J. G. Cross.

Fitzwygram Prizes.

The SECRETARY read the result of these examinations, copies of which had been forwarded to the professional journals.

Obituary.

The SECRETARY read the list of names of members deceased since the last meeting.

Notice of Motion.

Professor AXE gave notice that at the next quarterly meeting he would propose that Bye-law 47 be amended as follows:—"A student holding a foreign or colonial diploma from any veterinary examining body recognised by the Council shall be exempt from attendance on the course of lectures for the first two years, and from the examinations at the end of those years respectively, *provided he has regularly attended a veterinary school for not less than three winter sessions of six months each, and qualified in the subjects comprised in the first two examinations of the Royal College of Veterinary Surgeons.*"

SPECIAL MEETING.

The meeting was then made special for the purpose of considering several notices of motion, standing in the names of various members of the Council.

The Final Examination.

Mr. T. H. SIMCOCKS first moved, "That at the Final or 'C' Examination, a written examination be added to the oral and practical. He said that his desire was to place the profession upon the same footing as regarded the Final Examination being in writing as all the other learned professions. It was the duty of the Council to take every means in its power to ascertain what really was the knowledge that each candidate for entrance into the profession possessed; and he ventured to think that his proposal, if adopted, would aid very much in bringing about that result. There was no doubt whatever that, under certain circumstances, very good men were sometimes rejected in the oral examination who would pass with ease the written examination; while there were incapables who, although they would go straight through the oral test, would expose their ignorance in their written answers. By adding this written examination an exact idea of the real information possessed by each candidate would be obtained. The chief objections to his proposal would no doubt be, first, that the profession was not ripe for such a change; and, secondly, that it would entail some additional expense upon the College. With regard to the first, he really did not see why some effort should not be made at once to level up the veterinary examinations to the standard of those of other professions; while as to the question of expense, he did not believe that the examiners would require increased fees for the trifling extra duty of looking over the papers of the students. This written examination would also prove a check upon the sort of Matriculation Examination instituted by certain authorities other than the Royal College of Veterinary Surgeons. He had no hesitation in saying most positively that since this so-called Matriculation Examination had come into existence young men had been passed into the schools who were grossly illiterate, and incapable of writing or speaking the English language with a moderate degree of correctness; but the authorities sanctioning such Matriculation Examination would be more careful in seeing that they did not admit illiterate men if they knew that the Royal College of Veterinary Surgeons would have a subsequent opportunity of ascertaining the real qualifications of the candidates.

Mr. GREAVES said that although he was not at present very much in favour of the motion he would second it, because he considered it was a matter which ought to be ventilated.

Mr. SANTY thought that a final examination in writing was unnecessary,

because the student was already required in the practical examination to write certificates and prescriptions. He should like to hear from Mr. Simcocks the nature of the questions that would be set.

Mr. SIMCOCKS said they would have no reference whatever to general education, but be confined to professional subjects.

Mr. CARTLEDGE could hardly imagine what subjects there were which, if capable of being dealt with in writing, were not equally capable of being discussed *vivâ voce*. He should therefore oppose the motion.

Professor AXE supported the motion. As Mr. Simcocks had very justly said, there were many students who from nervousness or some other cause failed in their *vivâ voce* examination, who would be morally certain to obtain their diplomas if given papers to which they could supply written answers; and on that ground alone he (Professor Axe) thought the motion was a step in the right direction. He also thought that it would do good by bringing pressure to bear upon the students which should induce them to improve themselves in the art of writing and inditing, in which accomplishments many of them were greatly deficient. A short time ago the decisions arrived at by the examiners had been much canvassed, and in some instances the method of examination was seriously condemned. Now, if a written examination did nothing else, it would certainly form a document which could be referred to if any student should feel himself aggrieved with regard to the estimate put upon his work. As to the profession not being ripe for such a change, he was quite of a contrary opinion; he thought that it was ripe for anything of that sort. If the proposal were put in force, he was sure that the students would soon set about preparing to qualify themselves to meet its requirements, and in this the teachers would lend them all the aid in their power.

Mr. WOODS said he should support the motion if it were not enforced for some considerable time to come, so as not to affect the present pupils at College.

Mr. SIMCOCKS said that, if carried, his proposal certainly would not be put into operation at once. He should like to remind the Council that it would not require increased knowledge on the part of the students, but simply furnish additional means of ascertaining the extent of their information.

Professor ROBERTSON said he had no objection whatever to the motion, but he should be glad to learn from Mr. Simcocks if he had thoroughly thought out the results which his proposal would produce. In the first place it would require all teaching to be stopped a fortnight before the termination of each session, and it would mean additional expense to the College (for the Examiners could not be asked to work for nothing), which would have to be met by increasing the fees charged to students, upon whom the present financial burden was quite as much as they could bear. Then came the question, Is it worth while to pay more to enter the veterinary profession than heretofore? It required three years of study to qualify a man for the position of veterinary surgeon, and the expenses incurred during that time were quite as large as they ought to be in proportion to what was afterwards gained in practice. He believed that the same topic had been before the Council some time ago, when it was resolved to postpone its consideration until the term of office of the existing Examination Board had expired, and he suggested that a similar course should be followed on this occasion.

Dr. FLEMING: Why not make the A and B examinations written examinations?

Mr. SIMCOCKS said he should have no objection whatever to that. His idea in making the motion was to get in the thin end of the wedge.

Mr. P. TAYLOR thought it would be better to postpone the resolution until two years hence, when there would be a real reform of the whole system of examination.

The PRESIDENT observed that he was rather inclined to think that the Examiners should be voiceless on this matter, but as Mr. Greaves had asked for some expression of opinion on their part, he (the President) might say that, in his opinion, there was a great deal to recommend itself in the idea of written examinations. With regard to the additional expense which it was thought might be incurred, he ventured to think that that consideration might be dismissed altogether, for he was certain that not one of his colleagues would think of making any extra demand upon the funds. Already they had undertaken voluntarily twice the amount of work in the practical examination, for which they had neither received nor desired any additional recompense He thought, however, that the time had scarcely arrived when such a motion as that proposed could be passed with any real advantage. He therefore felt that it would be advisable to let the matter stand over until the reorganisation of the Examining Board. He said the Examiners had commenced their duties with the full determination to do their best in all interests, and any suggestions made to them would receive full consideration.

Mr. SIMCOCKS said in deference to the evident wishes of the Council he would withdraw his motion.

The motion was accordingly withdrawn.

Dates of Examination.

Mr. F. W. WRAGG moved, "That a Committee be formed to take into consideration the fixing of permanent dates for the several examinations of the Royal College of Veterinary Surgeons." In doing so he said that if the dates of the examinations were permanently fixed it would be a great boon to the Examiners, who would then know exactly when their services would be required, and an advantage also to the teachers and students. He believed that the majority of the profession would welcome a relief such as he proposed from the present uncertainty, for Veterinary Medical Associations in different parts of the country were very often deprived of the services of some of their members owing to the clashing of the dates of their meetings with those of the examinations.

Mr. SANTY seconded the motion.

Mr. DRAY observed that an Examination Committee had been appointed at the last meeting of the Council, who might consider the question raised in Mr. Wragg's motion.

Mr. WRAGG said he would be satisfied if permanent fixtures were made; he did not care who arranged them. He thought, however, that the examiners should be added to the Committee, which was agreed to accordingly.

The Election of Fellows.

Mr. H. L. SIMPSON moved, "That a Committee be appointed to inquire into the operation of clause 9 of the Supplemental Charter of 23rd August, 1876, and to report thereon to the Council." His object, he said, in bringing the matter before the Council was to direct attention to what he thought an injustice to those members of the College who were not also Fellows, and to the fact that the Fellowship had not been that success which its promoters or the profession generally could have desired. With regard to the injustice, the original Charter of 1844 distinctly declared that the Presidents, Vice-Presidents, members of Council, etc., should be elected from the members of the body politic and corporate, whereas the Charter of 1876 provided that next year that right should be abolished. The words of the Clause are :— "That at the end of ten years from the date hereof no member of the said College, save and except the present members of the said Council, who shall not also be a Fellow of the said College, shall be eligible to be a member of the Council or to serve as a member of the Board of Examiners." In another Sup-

plemental Charter, that of 1883, when alterations were made of what existed in the original Charter of 1844, the old provisions were recalled and the phrase used, that notwithstanding what had been previously agreed to, such and such alterations should be made, but in the Charter of 1876 nothing of the kind was to be found, which might account for the members having been caught napping at the time. It simply took away the right of the members to select their officers from the profession generally without any reference whatever to the privileges that had belonged to them hitherto. He would not say there was an attempt to gag those who were on the Council, but every member not also a Fellow was barred from office except he who happened to have a seat at the Council at the time. It might be argued that the profession could have objected to the clause when it was first drawn up, but no one realised its real effect, and so it had been passed. He was happy to say that the apathy of the profession nine years ago when this clause was passed had entirely vanished, and in its stead there was a strong feeling all over the country that it should be reconsidered. In proof of this he might mention that a communication had been sent to him by Mr. Kidd, the Secretary of the Royal Counties Veterinary Medical Association, containing the opinions of various veterinary associations, of which there are over twenty, and which, in nearly every instance, were favourable either to the alteration or rescinding of the obnoxious clause. He was not there to discuss now what the course to be followed should be, but simply to ask for a committee of inquiry. As to the popularity of the Fellowship, the most ardent supporter of that distinction could not say it had been a success, as only about 120 Fellows had been elected, forty of whom only had been admitted by examination. Such a title ought to, and will eventually, carry with it advantages to the holder which will make it coveted by the profession, and by charging a fair fee to the candidates the College would be benefited by an increase of its funds, of which it stood in great need in order to meet its enormously increased expenditure—justifiable expenditure in earnest endeavours to raise the status of the profession. There could be no doubt that the Fellows had acquired rights which were unassailable, but, on the other hand, they must not say that the members should go absolutely to the wall because in 1876 there was no one who looked after their interests. He believed there was a grand opportunity for compromise if the Committee which he asked for were granted; they could go through the Charters, and perhaps devise some means for effecting so desirable an object. He would remind them that the Council of the Royal College of Surgeons found their first Fellowship Charter unworkable, and after nine years they obtained power to amend it. Why should not we do the same?

Mr. MULVEY seconded the motion, which was agreed to.

The following gentlemen were then appointed as the Committee:—The President, Sir F. Fitzwygram, Dr. Fleming, Professor Walley, Professor Pritchard, Professor Robertson, Professor Duguid, Professor Axe, Mr. Barford, Mr. Greaves, Mr. H. L. Simpson, Mr. J. F. Simpson, Mr. Harpley, Mr. Mulvey, and Mr. Peter Taylor.

Divisional Representation.

Mr. T. H. SIMCOCKS moved, "That a Committee be appointed to examine and report on the scheme proposed by Mr. Cunningham for divisional representation." He said that personally he was strongly in favour of the scheme. Those whom he represented at the Council had always been treated very fairly, but some gentlemen across the Border appeared to think that they had not been dealt with properly, and so were anxious to send their own representatives to the Council. It was only due to the profession that the scheme should be investigated.

Mr. SANTY asked whether, under the scheme, gentlemen wishing to be elected to the Council would have to appeal to the suffrages of boroughs or districts, as in a Parliamentary election; and being answered by Mr. Simcocks in the affirmative, he said he would second the motion.

Mr. GREAVES thought that, in view of the scheme already sanctioned by the Charter, the Council could not alter it without going to the Privy Council for another Charter.

Dr. FLEMING said it was the general opinion of the Council in 1882 that such a scheme as that proposed by Mr. Cunningham would not work.

The motion was then negatived without further discussion.

Professor WALLEY not being present, two notices of motion standing in his name were not entered into, discussion on them being postponed till the next meeting of the Council.

A hearty vote of thanks was then passed to the President, and the proceedings terminated.

NORFOLK AND EASTERN COUNTIES VETERINARY MEDICAL ASSOCIATION.

THE fifteenth half-yearly meeting of the above society was held at the Norfolk Hotel, Norwich, on Friday, May 1st, 1885, G. A. Banham, Esq., Cambridge, in the chair, when several of the members met to hear an essay read by Professor Walley, of Edinburgh, on "Neuroses of Undetermined Origin," in which Megrims and Epilepsy, Chorea and Immobilitié were mainly dealt with.

The preliminary business having been settled, a discussion arose as to the desirability of holding the meeting at various places in the eastern counties instead of always at Norwich as hitherto, and it was finally agreed, on the motion of Mr. SANTEY, seconded by Mr. OVERED, to hold the next meeting at Cambridge.

The PRESIDENT then read his

INAUGURAL ADDRESS.

"Gentlemen,—When I last addressed you as President of this society, I little thought that that pleasure would fall to my lot again. Although I would rather have seen some other member filling that post this year, still, as it is your wish that I should remain in office, I will endeavour to carry out the duties to the best of my ability, and I trust each of you will give me your support in doing so. No society can be successfully carried on without each of its members doing their share to further its progress and usefulness. This, I hope, each one of you will do by offering to read papers for discussion, and by expressing your views upon the subjects brought before us, as freely as they are given by others to you. I have heard members say they could not bring subjects before the meeting because they could not find time to write papers. Now this is hardly necessary, because I have often attended meetings where no paper was read, but simply interesting cases, etc., brought forward, and gained much knowledge from the discussion which followed them. If you cannot find time to write elaborate papers, you can at least make notes of cases which come before you in your daily practice, and bring them before the society, which will be as beneficial as long papers. I also hope that we may try this year to hold our meetings in other towns of the eastern counties besides Norwich. We are all very thankful to our Norwich friends for their labours in the past, but it is hardly fair to expect them to undertake this task year after year. The members residing in other parts of the eastern counties should take their share of such work, and, in order to start such a scheme, I shall be glad

to make arrangements for our next meeting in Cambridge, should you think proper to visit that town.

My discourse to-day will be a short one, upon those topics which are uppermost in our thoughts just now. Discontent and grumbling are ever before us, both in our Council, journals, and individual professional life. More time is spent in trying to obstruct our professional progress than to advance it. What with national, scholastic, and individual jealousy, everything that is brought forward for our professional good is prevented from becoming law, and even when it has become so, every effort is put forward to obstruct and prevent its being successfully carried out. This feeling seems to be the root of a great deal of the discontent now rampant. If we are to look at our craft from any such narrow basis as this, progress will be impossible. Our profession is one body, and it must be kept so. It is all the same whether in England, Scotland, or Ireland, and unless we do look at it in this broad and unbiassed way, depend upon it we shall make no headway. We are a small profession, and cannot afford to be divided. Whether our Council is composed equally of two Irish, four Scotch, and eighteen Englishmen, or all of one nationality or another, it does not—nor can it—signify, so long as each of these is doing his best for the good of the "profession." Such complaints as are being made upon this matter are *unprofessional* and *groundless*. Has our Council done anything disadvantageous to the members of the profession of either country? or, Does our Council make laws and regulations for one, different to those of another? As far as I know, they affect all alike. The only advantage England has, perhaps, is that the headquarters are in London, and, I would ask, what better centre could we have in Great Britain? This is the only advantage one country has over the other, except in the number of members each contains, which we cannot help. England has the largest number of practitioners, and will have—at least for a long time to come—do what we will; and, as she has the largest number, she ought to be the "majority," and the "minority" ought to learn to give in to her rule. If Mr. Cunningham's constituency representation could heal the wound, would the function of the tissue be restored? No; for he proposes to give nineteen representatives to England, five to Scotland, three to Ireland, and four to the schools. However, the schools, Ireland, and Scotland put together would be in the minority still, and, so far as I can see, nothing would be gained. Our endeavour must be to get the best men we can for Councilmen, irrespective of nationality or any other selfish motive.

Much dissatisfaction is now being shown in some quarters with regard to the rights of the Fellows of the Royal College of Veterinary Surgeons. If the profession was opposed to the action of their Council in 1876, they should have then said so, and not have allowed nine years to elapse before showing their disapproval of their Council's action. Is it fair to your representatives to try and prevent laws, which they passed with your consent, from being carried out? Now that it has been law for nine years, I consider it is unfair and distrustful of us to try and cancel it, simply because it prevents those who have not chosen to take the degree from sitting at the Council table, or Examining Board. Our Council passed this law for our professional good, and we must admit that, if properly carried out, it will be beneficial to us. Why, then, put all the obstacles you can in the way of its success? I hope a resolution will be carried here to-day, which will assure our Council that the Eastern Counties graduates appreciate the work they did for us in 1876, and assure them that they at least are not averse to measures which are beneficial to our advancement. Perhaps some reconciliations might be allowed to members who held the membership diplomas before the Charter was obtained, such as exemption from any scholastic educational test. The Board might arrange to hold its examinations in other places than London, so as to save the heavy

travelling expenses which candidates from the north, who wished to obtain the diploma, would incur, and any other advantages that the Council could see their way to permit to those members who obtained their membership diploma before the higher degree was instituted. But no such advantages ought to be allowed those who have passed since its formation. This would perhaps induce all members of the Royal College of Veterinary Surgeons to become F.R.C.V.S. who wished to sit at our Council chamber, and if they have no such ambition there would be no reason for them to prevent those that have. The Fellowship degree is like most other things of the kind, "good" or "evil," as we choose to make it; and it is for the profession to say which it shall be. The examination of students for the diploma of the Royal College of Veterinary Surgeons has again caused a great deal of correspondence. Some very hard and misleading statements have been made by those who, if honest, ought to have known better. Facts can be so put that they give the unacquainted exactly the opposite idea of the truth, and I am afraid that this fact has been brought into play on more than one occasion with the subject before us. However, I do not myself believe that the Council or the profession mistrust the Board, nor do I see how individuals can do so, after the able manner Dr. Fleming has dealt with the subject. However, I think it would be well if some of our Council would personally attend the examinations, and judge for themselves what the grounds are for complaint. If your examiners err at all, it is certainly on the wrong side, viz., that of "*lenity*." Various opinions have been advanced respecting the examiners and examinations, and if every critic could have a Board after his own liking, I wonder what would become of the candidates? Examiners, like teachers and practitioners, do differ in opinion upon subjects which admit of two or more views; but this, as Dr. Fleming points out, only shows that "they are mortal like other men." With regard to our Board being a representative one, I can only say that if the examiners do their duty to their profession, it must be a representative one. We have been told that none of the examiners for Class C have yet written a text-book on the subject upon which he examines. Now, I would ask whether this is one of the requisites for an examiner any more than it is for a teacher—or nearly as much so? I say that if an examiner bases his questions upon recognised text-books, that is all that is required. Let those who choose write and compile books! Again, you are told that neither in the past has there been anything in the shape of a syllabus to form a guide as to what subjects are examined upon at the different tables. I mention this simply to show you an instance where the fact is so put as to impress those who do not know with the opposite of the truth, so far as I am concerned. When your Council honoured me with a seat on your Examining Board, I at once made it my business to find out the text-book used at the various schools upon the subject I examined upon, and informed the teachers that I should base my questions upon their text-book—which course seemed to me to be correct and fair, both to Council, school, and student. Here, you see, although I did not actually write out "a syllabus" for each school, yet virtually I did so, when I told them I should base my questions on their text-book. This grievance, however, I hope is now of the past, as, since that complaint was made, a syllabus has been drawn up by each examiner, and, I suppose, circulated by your Council to each teacher at the various schools.

The profession has not been treated well nor justly by the Privy Council, with regard to registering men as veterinary surgeons. The Privy Council absolutely refused to take notice of any statements made by our members at the time the list was submitted to them, and they have refused to assist us in any way since. These uneducated veterinary surgeons are legally our *equals*, and we must acknowledge it. Many of these registered practitioners tell

their customers that they have "passed the college," and are equal to any other veterinary surgeon, which, of course, is readily believed by the public, as they do not know otherwise, and can only estimate us by their own knowledge. It is owing to this that many educated veterinary surgeons are put on an equality, or even below these quacks, by the public. It does not matter how well the M.R.C.V.S. knows anatomy, physiology, medicine, surgery, and therapeutics, these do not tell in public opinion—except in rare cases—because they cannot be estimated by the public. They judge us by the way we go about the animal, how we perform the little details which they and their grooms know how to do, and the success we obtain in practice. Now, unless we go about horses in a horseman-like way, and perform these little details (which some call "*practice*") as well or a little better than they can, they (the public) will think little of us, and will value us below that of a registered practitioner or groom; for this is the only line upon which they can judge. As far as our success in practice is concerned, I may say the quack has the advantage of us, because, in nine cases out of ten that we are called in to treat, they or the owners have been before us, and the animal is nearly dead before our advice is sought. If our clients would treat us fairly and employ us in easy cases as well as difficult, I should not complain; but this is not so.

It has lately been asked whether the registered practitioner has a right to use our professional crest and motto. I trust, if the Privy Council is asked, they will decide that these as well as our letters are all our exclusive right; but after we are told that we have no right to inform the public that "*as these persons (registered practitioners) have not undergone the qualifying test prescribed by the R.C.V.S. the Council do not hold themselves responsible in any way for their professional qualification*, I shall soon begin to question whether we have any "right" at all.

Can and ought we to meet registered practitioners in consultation? Legally, I suppose we cannot refuse to do so, but practically we must and ought not to do so, in the strict sense of the term. How can we consult with men who know nothing of their profession? My custom is to see the case with them, hear what they have done, and then give them directions how to proceed with the case, by my own medicinal preparations—in fact, I meet and treat them just as I should an "owner," "trainer," "stud-groom," or a "coachman," and I should strongly advise others to do likewise. These men rarely ask the educated veterinarian in their own district to consult with them, but usually one some miles from them. Now, I consider it absolutely unfair to your brother practitioner in the quack's neighbourhood to go and "help them out" when they get into trouble.

It is also scandalous to see local authorities employing registered men as inspectors under the Contagious Diseases (Animals) Act, although I believe they have a perfect right to do so.

Finally, gentlemen, let me say a few words respecting our behaviour to each other in our daily practice. No doubt we have all been met by and have had to meet other practitioners upon cases when our clients were not satisfied. Sometimes these meetings have been pleasant and profitable, at others the contrary. There is no doubt how such meetings should be conducted; a detailed account is unnecessary from myself, *for all* we need do is *to act towards our neighbour in all things as we would they should act towards ourselves under similar circumstances.* I am certain, if this simple plan is followed, those jealousies, which are the root of all our evils, will cease, and we shall reap the benefit.

In conclusion, gentlemen, permit me to thank you once more for the honour you have done me by again electing me to preside over your meetings another year; and I would have you ever bear in mind that—

1. We must look upon the profession as one body, and each try and throw in his mite to assist in its proper working.
2. We must select men to sit on our Council who are prepared to leave their self-interest, school, and national interests out of consideration when they are at the Council table.
3. We must prevent any extraneous bodies and corporations from interfering with the wishes of our profession.
4. We must come more into contact with each other not only in districts, but in countries.
5. We must impress the students with the fact that they are to know at least something of each subject, and that this is only obtained by hard work; that they are not required to answer all questions put to them by the examiners; that they should learn to answer quickly, and be careful not to show the white feather by saying "I don't know," before they have really thought of the question.
6. We should always use our "letters" to distinguish us from registered men.
7. We should make known the exact position of these practitioners to our friends and clients.
8. We should not refuse to see patients that have been under the treatment of a registered man, but care must be taken in doing so.
9. We must all learn the ordinary details of going about horses, etc., etc., so that we can work as well, if no better than grooms, etc., at this work.
10. We should not only assist our clients by diagnosing and prescribing for their animals when sick, but help them in other ways if possible.

A lengthy discussion followed, the rule of Council to admit in future none but Fellows to a seat on the Board receiving especial notice, and it was the opinion of almost all the members present that such a course was certainly a step in the right direction, and that, if properly carried out, it would be of great advantage to the profession generally.

Professor Walley then read his essay on

"Neuroses of Undetermined Origin."

Mr. President, and Gentlemen,—In the consideration of the subject of my paper, viz., "Neuroses of Undetermined Origin," I have selected two important forms of nerve derangement peculiar to the two great nerve centres—the brain and the spinal cord. There are other forms of nerve derangement which might have been included in a paper of this kind; had I done so, however, I should have wearied you and myself also. I have preferred to deal with the neuroses mentioned, mainly on the ground of their co-relation to each other.

At the outset, I wish you distinctly to understand that neither of the four conditions dealt with can be looked upon as partaking of the characters of a definite or definable form of disease. *In themselves they are only symptoms;* only, as it were, *expressions of diseased conditions*—functional or organic—widely dissimilar from each other; yet, in their manifestations, remarkably alike.

While, in the majority of cases, two of these conditions, Megrims and Epilepsy, have their origin in cerebral disturbance, and the other two, Chorea and Immobilitié, in spinal disturbance, it is probably true that one at least, Chorea, has both a cerebral and a spinal origin. The arbitrary line of demarcation formerly drawn between affections of the brain and spinal cord has of late years been broken through, and an intimate connection has been shown to exist between the fibrous structure of the latter, and that of the great basial ganglia of the former.

Equally in their causal relations are these neuroses associated, and we shall find on careful investigation that the difference between Megrims and

Epilepsy, and between Chorea and Immobilitié, respectively, is mainly one of degree.

Another important character in the causal relations of the whole group is that the symptoms may originate either in a *centric* or in an *eccentric* disturbance, *i.e.*, in some irritation localised within the structure of the organ itself, or in an irritation localised in some important organ at a distance—as a bowel, the stomach, or the uterus—and producing its effect by reflex action through the sensory nerves.

The term "Megrims" is of uncertain origin. It is synonymous with "Hemicrania" (pain confined to the half of the head, or "Semi-pain") of the human physician, and with the "Migraine" of the French. It receives also the general appellations of "Giddiness," "Turn-sick," and "Staggers," and the more technical one of "Vertigo." Each one of these, if not comprehensive, is at least suggestive, and has reference either to supposed causes or to the conditions presented. "Megrims" may be said to consist of *sudden and temporary arrest or derangement of volition and motion, accompanied by convulsions of more or less intensity.* While it is seen most largely in the horse, and that too, in adults; it is also occasionally seen in other animals, and particularly in the dog.

The *centric causes* are, firstly, some evanescent circulatory disturbance, produced by interference with the venous circulation, *e.g.*, temporary arrest to the flow of blood in the jugular vein by the compression exerted thereon by an ill-fitting collar, or by the head being depressed for a considerable time, as in grazing, while exposed to the rays of a hot sun, or by an animal being compelled to perform continuous rotatory motion—as in a threshing or mowing machine, under similar conditions.

Secondly, some permanent organic change, as the formation of tumours in the lateral ventricles; exostoses projecting from the cranial bones, tuberculous or melanotic deposits, sarcomatous formations, papillomata in connection with the vascular fringe of the fourth ventricle (a condition often overlooked even in *post-mortem* examinations); hydatid cysts, or Hydrocephalus. I have sometimes thought that the recurrence of the vertiginous symptoms might, in the case of tumours, be due to some sudden interference, as by pressure, with the arterial or venous circulation—probably extravasation of blood in some instances—or that it might be due to some sudden movement of fluid from ventricle to ventricle, in the case of Hydrocephalus. Undue excitement or great exertion might be the determining cause of such changes.

The *eccentric causes* have their origin in the following organs—the ear, the heart, the stomach, and the bowels. *Aural vertigo* is due to the presence of some irritating agent in the middle ear, *e.g.*, sand blown into the ear of the horse by ignorant grooms for the purpose of overcoming the obstinacy of a "jibber," barley-corns or other grains dropped into the ear of the pig by unscrupulous jobbers, for the purpose of producing symptoms of madness in order that they may purchase the animals at a price considerably below their true value; the irritation of acari, as shown by Mégnin and others, in the condition known as *Auricular acariasis;* the insinuation of grass seeds or heads of grass into the ear of the dog; and the irritation of the discharges of otorrhœa in all animals.

Cardiac Vertigo is due to some organic disease of the heart, accompanied by interference with the circulation, *e.g.*, obstructive disease of the right heart, or vegetative valvular disease of the left heart, accompanied, in the latter case, by breaking up of the fibrinous material and its conveyance, in the form of small emboli, into the minute vessels of the brain.

Gastric Vertigo is mainly due to indigestion, and is always most pronounced and most constant in the cow, though by no means infrequent or unimportant in the horse, the pig and the dog.

Enteric Vertigo is most frequently seen in the dog, and is usually caused by the irritation of worms or by costiveness.

The Diagnostic Characters of Megrims are, sudden loss of control over the will and over the voluntary muscles, shaking of the head, staggering gait, twitching of the facial muscles, nictitation of the eyelids, and, occasionally, champing of the jaws; these indications are followed by complete loss of power, the animal falling over on to its side or pitching headlong forward and lying helpless and probably convulsed for the space of several minutes, then rising, giving its body a shake, and continuing its progress as though nothing had happened. During the fit the pupil of the eyes may be dilated or contracted, or one dilated and the other contracted.

One of the most remarkable cases of the kind I have ever seen, occurred in a Clydesdale horse, the property of a co-operative society. This animal—a six-years old, purchased the previous year, and at that time examined by me—had been very healthy until a few weeks prior to the date on which I was asked to examine him. The symptoms noticed were, constant shaking of the head, champing of the jaws and salivation, whenever the horse was put to work. These phenomena were always aggravated during a shower of rain, and in bad weather became so violent as to interfere with locomotion. After repeated and careful examinations had failed to reveal the cause or source of the symptoms, I decided that they had their origin in some form of brain disturbance, and placed the horse under a systematic course of treatment, with the result that he has now continued at work for about four years without any material interference with his general health being observed, and with only occasional returns of the attack.

In horses tied up in stalls, the approach of an attack of Megrims is usually heralded by the animal determinedly pulling back or hanging upon the halter or the collar chain, this being followed by convulsions; the horse, however, does not always fall, being saved from so doing by the support of the stall or a wall, and the halter.

Epilepsy.—This term is derived from the Greek, and signifies a sudden seizure—"I seize upon." It has a variety of synonyms, *e.g.*, "Falling Sickness" (in sheep in Scotland), "Staggers," "Fits," "Convulsions." The term "Eclampsia" is sometimes employed in a similar sense; its derivation is also from the Greek, signifying a sudden attack—"I seize hold of;" while some authors give its derivation from words signifying "I shine" and "brilliancy," owing to the flashes of light which constantly pass before the eyes during the attack.

This term is a favourite with some veterinary authors, and its use tends to produce some little confusion. In human practice, no pretence to differentiate between Eclampsia and Epilepsy (or convulsions) is made, further than by stating that the "fits" in the former are more prolonged than in the latter condition.

The late Mr. Haycock, of Manchester, was very fond of using the term "Hysteria" when speaking of convulsions, more especially of Acute Uræmia; the word so applied is misleading, *Hysteria* being marked by alternate fits of laughing and crying. It is not, you know, the habit of animals either "to weep with those who weep," or "to laugh with those that laugh."

The term *Epileptoid* may very conveniently be applied to those convulsive attacks which, while not accurately representing Epilepsy in all its phases, yet, in some particulars, bear a close resemblance to it.

Another form of convulsive seizure often associated with Epilepsy is "Catalepsy." In this condition the seizure is sudden, but it assumes a somewhat trance-like character, and the limbs retain the position into which they are thrown at the time of the attack. Catalepsy is occasionally seen in all animals, but with the exception of one case in a hare, the result of a gun-

shot wound of the brain, I have seen it most largely in the cow and the pig. Mr. Wood, of Wigan, placed on record some years ago a good case in the cow, and Mr. Treacey has recorded a well-marked case in the horse.

Epilepsy differs materially from Vertigo in the following respects :—The attacks are more violent, more prolonged, and more exhausting ; the convulsions are associated with absolute unconsciousness and helplessness, and even after the subsidence of the fit the sufferer remains in a semi-conscious state for some minutes, instead of immediately regaining consciousness. The duration of Epilepsy is very indefinite. An animal, especially a dog, may live for years, and continue as an epileptic animal to the end. Epilepsy is not, in a sense, fatal ; but if the attacks recur frequently it may cause death by exhaustion. In animals, as in man, it is hereditary in its tendency, and one of the best examples of this was brought before my notice by Mr. John Malcolm, who, while assisting Mr. Hunting, of South Hetton, was one day asked by a farmer to give him some advice in reference to a litter of young pigs which were said to be the subjects of fits. On inquiry, Mr. Malcolm discovered that of three litters produced by one sow a number of the young pigs had in each case died from Epilepsy, while the progeny of one surviving sow of the first litter also became the subjects of it. The general causes of Epilepsy are much the same as in Vertigo, though, in so far as centric causes are concerned, it is a well-established fact that lesions localised at the base of the brain and in the medulla oblongata are more likely to induce such attacks than when situated elsewhere. In reference to eccentric causes, it may be noticed that the irritation accompanying œstrum and post-parturient conditions in the cow, the irritation of teething in young dogs, and the exhaustion consequent upon "over-suckling" in the bitch, are more frequently in operation to produce the symptoms than they are in the production of Vertigo. Cattle after long sea-voyages, horses suffering from Acute Uræmia, and pigs the victims of Rabies, frequently suffer from epileptoid convulsions, as do dogs after distemper. I have known one or two instances of Epilepsy associated with Rheumatism in the cow ; one animal, in particular, becoming violently convulsed at the approach and during the continuance of a thunderstorm—her condition, on several occasions, becoming so alarming as to cause her owner to dispatch a messenger for the butcher ; but, as the toothache often disappears when its victim approaches the door of the dentist, so this animal generally managed to recover from the convulsive fit on the approach of the flesher. The pathology of these cases, in which no definite cause can be discovered, is probably as much a mystery to-day as it was hundreds of years ago; to some, an epileptic attack is evidence of Anæmia, to others, of Hyperæmia of the brain, while a third party discourses eloquently upon nerve-storms and nerve-explosions produced by a storing up of nerve energy—though why nerve energy should be stored up to a greater extent in one animal than in another, or what the precise nature of the determining influence of the storm may be, we are left to decide for ourselves.

Attacks of Epilepsy, unlike those of Vertigo, are frequently heralded, and particularly so in the dog, by some such sign as mopishness, uneasiness, an anxious expression of countenance, twitching of the facial muscles, or dragging at the halter or chain which secures the animal in its stall or kennel. In most instances, however, the attack is sudden, and preceded by no premonitory sign, the victim falling as if shot, and becoming convulsed instantaneously. As already indicated, the concomitant symptoms of Epilepsy are an exaggeration of those of Vertigo, and in addition we have tetanic spasms (usually opisthotonous), involuntary defæcation and micturition, yelping or snapping in the dog, spasmodic grunting in the pig, and, at the outset, bellowing in the ox. On recovery, there is in every animal a tendency to gyrate before perfect control over the voluntary muscles is gained,

and in the pig there is sometimes sitting on the haunches and whirling round and round with the fore part of the body. The retina, too, is markedly injected during the fit, and for some time after its subsidence, and the pupils dilated or contracted.

The fits recur at long intervals in some cases, but in many the intervals gradually shorten, until in the worst cases the animal seems to be scarcely out of one fit before it is seized with another.

Where death occurs during a fit it is probably due to carbonic acid poisoning, owing to the arrest of respiration—apnœa.

Treatment of Vertigo and Epilepsy.—In those cases which can be traced to a definite cause, no further treatment than the doing away with the cause is required, while in those of undetermined origin, the treatment must, to a large extent, be empirical in its character. In all cases the first step in the treatment is to attend to the condition of the alimentary canal, and to improve digestion by the adoption of appropriate measures, such as moderate laxatives, followed by gastro-intestinal tonics, and at the same time paying particular attention to dieting, and giving moderate exercise.

In reference to special medicines, those of an alterative character, as mercury (hydrargyrum *cum* cretæ in the dog) and arsenic, combined or alternated with nervo-muscular depressants, as chloral hydrate, belladonna, potassic bromide, or cannabus Indicus, are indicated. On the whole, potassic bromide (or the corresponding salt of sodium or ammonium, where it seems to exercise too depressent an effect) is the most valuable agent we possess, as it can be given in tolerably large doses for a very long time—years if necessary—without producing any deleterious effect on the health, and with the certainty of relief, or in many cases of absolute cure. Potassic iodide may be alternated with the bromide if it is thought that the Epilepsy is due to serous effusion.

During the convulsions, while little more can be done than the adoption of measures calculated to prevent the animal injuring itself and to facilitate respiration, the cow in every instance being supported in the sternum, I always advise that chloroform inhalation be had recourse to, as although it cannot exert any directly curative effect, it most certainly moderates the violence of the convulsions, and shortens their duration, indirectly favouring recovery by preventing exhaustion, and by giving rest, thus assisting nutrition of the nerve-cells. Nitrite of amyl is a useful substitute for chloroform if there is no organic heart disease, while bromide of ethyl is both safe and useful.

In reference to the question of *unsoundness* in connection with vertiginous or epileptic horses, I suppose the majority of the members of this Association will agree with me when I say that these conditions ought to be included in what should be an implied warranty in connection with the sale of a horse, where the price is such as to justify the purchaser in assuming that his purchase is free from any hidden defect; such a matter should, in point of fact, be placed on a commercial footing entirely, and all the more so as it is quite impossible for any veterinary surgeon—no matter how exhaustive in its character he may make his examination—to say that no such affection exists. Certainly one's suspicions are sometimes aroused by the existence of some peculiarity in the behaviour of a horse shown during the progress of the examination, and if this peculiarity is associated with any pupillary abnormality, the attention of the vendee should be at once directed to it, and an explanation of the phenomena asked for.

Chorea—a term derived from the Greek, signifying "dancing" or "jumping." Synonym, "St. Vitus's Dance."

This neuro-spinal condition, consisting, as it does, *of a persistent and rhythmic contraction of the voluntary muscles*, is most largely seen in the dog, occasionally only in the horse, the ox, the pig, or the sheep. As a

complication of Immobilitié in the horse, and of Louping Ill in sheep, it is comparatively common. While it is dependent for its production upon causes almost identical with those which give rise to Immobilitié, it differs from that condition in one important and special particular, viz., that the stimulus of motion is not required in order to bring about its peculiar manifestations.

Chorea may be *general*, *i.e.*, affecting all the voluntary muscles; *partial*, confined to the muscles of one or two limbs, or to sets of muscles. It may, like Rheumatism, be erratic, *i.e.*, disappear from one limb and reappear in another. It may exist in varying degrees of intensity, *i.e.*, the spasmodic movements may be so pronounced as to visibly shake and contort the body; on the contrary, they may be so slight as to be capable of demonstration only through the direct medium of the touch. The intensity of its manifestations too is modified by various circumstances, as excitement—mental or otherwise—exposure, over-exertion, parturition, sudden chills, or the action of zymotic or septic poisons.

Chorea is frequently associated with Epilepsy and Paralysis—these conditions are, however, as a rule, secondary.

Its *duration* is very indefinite, and while it is not directly fatal, it may, when severe, produce death by exhaustion. Death, however, is usually due to the cause which gives rise to the Chorea, not to the symptom itself.

In some cases the choreaic symptoms tend to remit, in others to increase, with age—this depending upon the renewal, repair, or aggravation of the lesions that give rise to it.

The Predisposing Causes are, probably, very few, unless we assume the presence of some inherent structural weakness in the grey matter of the cord, or some acquired weakness thereof resulting from disease.

Actual Causes.—Unlike Megrims and Epilepsy, Chorea, as also Immobilitié, is most largely the result of some centric irritation, the eccentric causes being very few. That its causation is rather of the nature of an irritation than of tissue-destruction is, I think, proved by the fact that the latter means annihilation of function, not excess of function. While I am quite prepared to admit that in many cases of Chorea no macroscopical lesions, nor, for that matter, microscopical lesions either, are to be discerned in the spinal cord, I have no hesitation in asserting that, in the vast majority of instances, some such lesions as chronic (venous or capillary) hyperæmia, softening or interstitial thickening of the structures of the cord may be detected on careful examination, and very frequently do we find—particularly after Distemper in the dog—effusion or extravasation into the spinal sheath, or congestion of the meninges themselves; such lesions being simply less extensive than those which are in operation to produce annihilation of function—Paralysis.

I have seen Chorea in the dog result from spinal concussion produced by blows, or by falls over stairs, bridges, and similar places; I have seen it produced by great mental excitement—as in fretting after the loss of a friend, or being thrown or falling unexpectedly into water, and sometimes after being violently attacked by a larger animal.

It is sometimes associated with Rheumatismal Endocarditis and with Asthma; the latter by itself, andthat not infrequently, leading to endocardial disease in the end. Its production in these cases has been attributed by Dr. Hughlings Jackson to the detachment of small masses of degenerated fibrin from the endocardium, and their conveyance to, and lodgment within, the spinal capillaries, thus producing embolism.

In the dog we find that the worst cases of Chorea are those which follow *masked* attacks of Distemper; in other words, when the external manifestations of this disease are but slightly marked. In this respect it does not differ materially from other lesions which we know to result from suppressed

attacks of specific fevers, and we have analogous conditions following such attacks of Influenza in the horse and specific fevers in the human subject.

In connection with its production by a particular poison circulating in the blood, the experiments carried on by Dr. John Harley with cryptopia are worth bearing in mind. Dr. Harley found that injections of this alkaloid produced marked choreaic symptoms, which passed off when the action of the drug subsided. Broadbent and others are of opinion that choreaic movements have, at least in some cases, their origin in the central ganglia at the base of the brain—*e.g.*, the corpora striata.

Characteristics—Special and Concomitant.—As already indicated, the special characteristics of this affection are involuntary and spasmodic contractions of the voluntary muscles, occurring quite independently of, though aggravated by, motion, and not accompanied by any particular evidence of pain, nor, except in the early stages, of fever.

When localised in the muscles of the fore-legs and neck the fore-quarters are rhythmically depressed and retracted, giving the animal the appearance of nodding. I have seen a large boar so badly affected in the fore limbs as to be almost incapable of progression owing to the violent spasm pulling him on to his knees, and I have seen one case in a horse in which the fore limbs were kept in constant rhythmical motion like the legs of a man working a treadmill.

If the muscles of the face are affected there is twitching of the eyelids, and in bad cases champing of the jaws and profuse salivation.

In some cases in the dog there is constant howling or yelping, particularly at night, and even, like the rhythmic muscular movement, persisting during sleep. The howling or yelping is, in my opinion, due to some disturbing influence exerted upon the sensorium itself, not on the spinal cord. In all bad cases, retinal injection more or less marked may be detected by catoptric or ophthalmoscopic examination.

While in some cases of Chorea the general condition of the body is good, in others the victim of the affection becomes emaciated and debilitated.

Treatment.—Undoubtedly a knowledge of the cause is of great assistance to us in the treatment of Chorea, as we may then be enabled to get rid of the cause, with the certainty that with its eradication the Chorea itself will cease; unfortunately, in the majority of cases, we can only attack the symptoms.

When there is reason to suppose—as after an attack of Distemper in the dog—that spinal effusion exists, absorbents, as potassic iodide, are indicated, with counter-irritation along the course of the spine, and moderate purgation; otherwise, nerve tonics and medicines known to exert a soothing effect on the spine, must be administered in combination ; thus, with iron, copper, zinc, or silver salts, or with arsenic, we may administer potassic bromide, chloral hydrate, belladonna, or conium. Strychnine as a spinal stimulant, and phosphorus as a restorative, have each been recommended. Strong coffee, in the hands of my colleague, Mr. Baird, was very successful in one case. I have frequently, however, seen it fail in producing any good effect.

Calabar bean, or its alkaloid, eserine, has been strongly recommended. I cannot support the recommendation. Frequently it will be found that where one medicine is useless another may produce the happiest results.

In all cases generous though moderate dieting is called for, and the animal should not be exposed to inclement weather, over-exertion, or excitement.

Immobilitié.—This term, as you are all probably aware, is a French term, and has reference to the peculiarly immobile condition of the limbs during the continuance of the spasm with which it is associated ; it is synonymous with our "Shivering," or, as it is called in Scotland, "Nerves," and sometimes "Click" or "Clique."

The affection is undoubtedly, in every case, of spinal or of neuro-spinal

origin, and is peculiar to the horse, though on one occasion (June 6th, 1879) I saw a well-marked case in a white-coloured cow, and another in a Danish ox; the latter, judging from its condition, had been used largely for working purposes.

While it is occasionally seen in comparatively young horses as the result of Strangles, injury to the spine in casting, and in one case (Mr. O. Reardon's, of Limerick) after docking, it most certainly may be looked upon as an affliction of adult life. Mr. Mackinder only last night related two cases to me which had recently occurred in his practice in yearling colts.

Immobilitié affects most largely the hind limbs—one or both; occasionally it is localised in the fore extremities; seldom is it seen in a corresponding hind and fore limb together; exceptionally it involves all the limbs.

As a rule, the symptom is persistent and permanent, though I have seen animals the subject of Immobilitié entirely recover from the condition, especially when it has made its appearance in comparatively early life, but while this is so, there are very few animals indeed that may be said to entirely recover from the affection when it is at all pronounced—the symptoms often recurring when the subject of it is exposed to adverse influences.

Its Causes, both predisposing and actual, are in the main identical with those of Chorea. Spinal concussion is, however, replaced by severe spinal and neuro-muscular strain, hence it is seen in young horses subjected to severe exertion, involving great effort on the part of the limb or the haunch muscles; as in backing heavy loads over rough or soft ground for long distances, twisting and turning about with heavy loads on lorries, and slipping about in frosty weather.

It is seen as a sequel of Strangles, of Influenza, and even of common cold, and is a frequent result of Spinitis or Spinal Meningitis, in these cases being due either to structural changes in the spinal cord itself, or to effusion into the spinal sheath. Thirteen or fourteen years ago I traced the origin of a very bad case, in a white horse, to melanotic deposits on the great sciatic nerve and the spine.

Characteristics of Immobilitié.—The manifestations of this condition, though as a rule requiring the stimulus of motion in order that they may be developed, are occasionally seen while an animal is quiescent, and I have sometimes seen such an animal pluck up a hind leg and flex it so forcibly and spasmodically as to lose his balance, and fall violently against the wall or the stall-post. The symptoms are most certainly produced by suddenly backing or turning an animal, by moving it from side to side, or by picking up a leg and flexing it forcibly. When extreme flexion is practised the leg is spasmodically suspended for several minutes, and, in some cases, is only set down after a violent struggle. Rest usually aggravates the symptoms, while exercise causes them to pass off—at least temporarily. Exacerbation of the symptoms always occurs when an animal is put to very severe straining work, or exposed to cold or cold and wet, if it contracts a cold, or becomes the subject of Influenza or of Spinitis. A wound in the foot, or an injury to the affected limb, sometimes produces such violent excitement as to throw the horse into a state of extreme fever, and even render him partially comatose. The whole body, in such cases, becomes spasmodically convulsed, the head is thrust into a corner, and the sternum pressed violently against the edge of the manger or the hayrack; the neck is sometimes drawn to one side or between the fore-legs, and the latter are moved in an automatic manner. The limb of the injured foot, and sometimes the whole body, may be bathed in perspiration; there is dilatation of the pupils, marked injection of the retina, and occasionally partial trismus. The symptoms I have just detailed may return in all their force even after a horse has apparently recovered from Immobilitié for a space of months or years, providing an exciting cause is brought into play; and, in some cases

they simulate those of iliac embolism. Immobilitié, I need scarcely remind you, is, even when only slight, unsoundness, and in no case should a veterinary surgeon advise the purchase of an animal suffering from it, not only on account of the fact that the symptoms are so liable to exacerbation, but more importantly so because such animals are bad and dangerous to shoe, do not lie down, or if they do, rise with difficulty; cannot be cast for operations, and even if put into stocks for such purposes are liable to injure themselves very severely. In no case should a veterinary surgeon cast such an animal without previously warning its owner of the probable consequences of doing so.

Treatment of Immobilitié.— In speaking of treatment in connection with this affection, it must be borne in mind that in old-standing cases little or nothing can be done towards the attainment of a cure. Means should, however, be always adopted to prevent aggravation of the symptoms; sore backs or shoulders avoided, and, if possible, pricks and similar injuries should be guarded against. Personally, I give strict injunctions to horse-keepers not to allow such animals to lie down, and direct them either to use slings or put the horse in a stall with a strong support of wood, rope, or chain behind him. In all cases where, from injuries or otherwise, the symptoms become markedly aggravated, every means should be used to allay the nervous excitement. If there is a wound about the body, or a prick in the foot, soothing treatment, such as persistent fomentations or poultices, with the application of anodynes, should be at once had recourse to; hot cloths should be applied to the loins, and nerve sedatives administered. Of the latter I find nothing gives so great or so speedy relief as belladonna combined with conium; these medicines should be given in small doses often repeated, and their use should be continued until relief is afforded. I have never seen much good follow the subcutaneous injection either of morphia or atropine. Nitrite of amyl will sometimes give much greater relief—though often it is only temporary.

A lengthy and practical discussion now ensued, in which many interesting cases were brought forward, with the result of various treatments, and one case was cited in which Immobilitié distinctly showed itself at the early age of six months in a cart foal, and two or three cases in twelve-months old colts.

A cordial vote of thanks to Professor Walley was proposed by Mr. SANTY, and seconded by Mr. HAMMOND. After having been suitably responded to by Professor WALLEY, a vote of thanks was given to Mr. Banham for presiding, and the meeting terminated.

R. S. BARCHAM, *Hon. Sec.*

NORTH OF ENGLAND VETERINARY MEDICAL ASSOCIATION.

THE usual quarterly meeting of this Association was held at the County Hotel, Newcastle-on-Tyne, on Friday, May 29th, 1885; the President (G. Elphick, Esq.) in the chair.

The SECRETARY nominated the following gentlemen for election as members of this Association :—Messrs. J. W. T. Moore, Newcastle-on-Tyne; R. Brydon, Seaham Harbour; J. Nicholson, West Auckland; J. E. Tudor, South Shields; J. Borthwick, jun., Newcastle-on-Tyne; J. Handcock, Newcastle-on-Tyne.

It was decided that the hour of meeting be in future altered from 4 to 3 o'clock.

The PRESIDENT, in opening the discussion on Clause IX. of the Supplemental Charter of 1876, said the members of the profession had no ill-feeling against any of the Fellows, nor did they wish to see the Fellowship degree

abolished; it is a degree which most members would consider it an honour to obtain, but, unfortunately, in many cases circumstances prevent them from ever obtaining the coveted prize. What the majority of the members object to is that Fellows only should be eligible as members of Council, and that it would be putting the whole working of the profession into the hands of a very small minority, and, whatever important questions might arise, the members would practically have no voice in the matter—especially if the Fellows held opposite views. Several remedies have been suggested, the most important being:

1. To abolish the clause altogether.
2. To allow a certain number of members to sit at the Council board.
3. That both Fellows and members shall be eligible, but only after they have been Fellows ten, or members twenty years.
4. That one and all shall be eligible to become members of Council, but that Fellows only shall be elected as examiners.

Of the different views, I prefer the last, but shall be glad to hear what any of you have to say on this very important question.

Mr. DUDGEON said he had no doubt the objectionable clause was made in all sincerity to raise the status of the profession, but, at the same time, it was a mistake that no member, not being a Fellow, should be eligible as a member of Council or to serve on the Board of Examiners. It is most unfair, and I think our veterinary associations should join together and try their utmost to get the clause rescinded.

Messrs. HEDLEY and NESBIT were of the same opinion as Mr. Dudgeon, and thought the clause should be struck out.

Mr. GREAVES said, at the annual meeting the profession were of opinion that the clause ought *not* to be rescinded, but that the examination for the F.R.C.V.S. degree was wrong, and should be altered, so that *all* members might have a fair chance of obtaining it.

Mr. W. HUNTER said he thought the clause was a step in the right direction, but that the examination was wrong. Men in practice had no time to read up a lot of useless subjects. The examination should be a sound, practical one.

Mr. MOORE said when the degree was started there was no doubt it was intended to benefit the profession, but he objected to the present mode of examination, especially the educational part. The whole examination ought to be more practical.

Mr. STEPHENSON thought all that was wanted was to alter the examinations. Let the clause stand as it is, but rearrange the bye-laws relating to the F.R.C.V.S. examination.

Mr. W. HUNTER proposed (seconded by Mr. STEPHENSON) that the clause be not rescinded, but that the examination for the Fellowship degree be made more practical and less theoretical.

Mr. DUDGEON proposed (seconded by Mr. HEDLEY) that this Association respectfully request the Royal College of Veterinary Surgeons to take the necessary steps to rescind Clause IX.

The two propositions having been put to the meeting, nine members voted —Mr. Hunter's motion being carried by a majority of one.

Several interesting cases were brought forward and discussed by the members and their friends, after which the meeting terminated with the usual vote of thanks to the Chairman. COLIN GRESTY, *Hon. Sec.*

THE WEST OF SCOTLAND VETERINARY MEDICAL ASSOCIATION.

THE quarterly meeting took place in the Veterinary College, Glasgow, on July 8th, the President, Mr. Campbell, in the chair.

Mr. TWEEDLEY read an instructive paper on so-called "Dislocation of the Patella."

A very animated discussion followed.

The PRESIDENT then submitted for consideration a few questions on professional etiquette and fees. Several members having expressed their opinions, a short but lively meeting was brought to a close by the usual votes of thanks.

L. MACQUEEN, *Sec.*

BORDER COUNTIES VETERINARY MEDICAL SOCIETY.

A MEETING of this Society was held at Carlisle, on June 11th, at the Bush Hotel, the President, Mr. Carlisle, in the chair.

Mr. Kendall, Barrow, was elected a member, and Mr. Armstrong, Penrith, nominated.

A letter was read from the Secretary of the Royal Counties Veterinary Medical Association respecting clause 9 Supplementary Charter, which was thoroughly discussed, and the meeting was unanimous in supporting the action of that society.

Messrs. MULVEY, THOMPSON, sen., BELL, sen., DAWSON, PEARS, and the PRESIDENT spoke strongly against the clause. While fully appreciating the higher degree of Fellow, they were unanimously of opinion that it is very unjust to deprive the majority of their rights and confer them on the minority. Each of the speakers thought the members were entitled to the fullest choice in the selection of their representatives, and that the Council had no right to deprive them of their privileges. It was stated by Mr. Greaves that the Council had no power to rescind or revoke the clause, but the meeting was of opinion that if the Council made it, and got it to become law, they also had the power to rescind it, or obtain another Charter to override the obnoxious clause.

Mr. GREAVES made the following observations on the subject:—In deciding on making a higher degree, viz., a Fellowship degree, the Council considered at the time that in doing so they were creating an opportunity for aspiring members to raise themselves to a higher level, obtaining greater knowledge by increased studies, an inducement which had not hitherto existed; the tendency of this must be to raise the status of the profession generally. In the first place, the Council, in making their selection for the first Fellows, had to recognise the claims each man had to the honour. One of the first qualifications required was, Was he worthy of this exalted position? His respectability, his standing, the estimation in which he was held by his fellow veterinary surgeons in the county or locality in which he lived, all these things were took into account. We thought it a good criterion to go by if we found that he had been selected a president of a veterinary medical association by his fellow veterinary surgeons, to whom he must be well known and respected. I can tell you that the whole profession in England, Ireland, and Scotland was carefully and most anxiously considered for men of excellence, and we made, as we thought, the very best selection we could for foundation Fellows. Since then members have been made Fellows by examination, the whole members being about 150, and nine more, some of them gentlemen of very large experience—such as Mr. Wragg, London; Mr. Simpson, Windsor, and Mr. Mulvey, of Bishop Auckland—are awaiting examination. Every

one of these are qualifying, or have qualified, for the higher degree, and have become Fellows on the distinct understanding that the covenant they entered into with the Council would be held sacred, and now, just as the time approaches for them to reap the reward of their labours, an opposition is got up against the 9th clause, *in which the gist of the whole matter lies*, the clause that gives them the benefit or privilege which was the chief inducement to strive to obtain the degree. Surely this would be dishonourable, and a manifest unfairness to them; it would be a flagrant injustice, and an illegal act. The ordinary veterinary surgeon, not a Fellow, complains, and feels himself aggrieved, and says that he is deprived of this privilege; but it must not be forgotten that no promise, no stipulation, in no sense whatever, was ever given or made to him that he should become an examiner. It has all along been only by courtesy and custom, which is entirely in the discretion of the Council, but it was never specified by diploma, or by charter, or by law, that he shall become an examiner; it is left wholly and entirely with the Council to regulate this by their bye-laws. As to the ordinary members of the profession having been robbed or deprived of their privileges of becoming a member of Council, this is amply and legally provided for by the Supplement-Charter of 1876, overriding the Royal Charter, 1844, and which is confirmed by the Act of Parliament, 1881. *It is now the law of the land that none but Fellows can, after this year, become either examiners or members of Council.* There is no hardship or unfairness in it. The whole profession knew of this clause at the time the Charter was obtained, and ten years was allowed as time sufficient for every member, who aspired to the position, and took an earnest interest in advancing his profession, to become a Fellow. Every member of the profession can become a Fellow if he likes; the door is wide open. It is only now, when we are about to realise our reward, and possess the honour, that the shoe pinches. Those who either have not the courage to be examined, begrudge the fee, or are indifferent to the title, now get up an opposition, and want the clause rescinded. *It cannot be rescinded or revoked, only by another charter.* We should only be laughed at if we applied for one. The degree of Fellow is open to every member of our profession. I would consent to modify the examination, and admit men of good reputation, high moral character, and of good standing in the profession. I would make this degree as popular as I can, by a modified examination, not less dignified. If I am told that there are members who are educated men, excellent men, eminent men in our profession, who are worthy men, and who ought to possess these privileges, *these are the very men we want, every one of them.* To them I say, if you really have any ambition in you, any strong desire to see your profession advance and occupy a higher standing, you will at once become a Fellow. Don't be cavilling, and haggling, and quibbling about it any longer, but join the party who have struggled, and are struggling, to deserve and gain a better position in society. It is this privilege, this hope of reward, that has been the chief incentive for members to work, to study, aspire, and qualify for this degree. Let the same laudable feeling actuate you. As soon as it comes into full operation it will then be valued, and ten will strive for it where only one applies now. Let not a feeling of envy cause you to disparage this degree, and join those who are now clamouring for and endeavouring to carry this retrograde movement, trying to drag us down again, trying to discourage every noble aspiration. I hope every member possessed with an enlightened spirit, every man of proved capacity, will esteem it an addition to our respectability and honourable character, will pluck up courage to become one of us, and enjoy the privilege.

(To be continued.)

PROCEEDINGS OF THE SECOND GENERAL MEETING OF THE NATIONAL VETERINARY ASSOCIATION.

(*Continued from p.* 65.)

The corroboration of the police-officer, who is often called in to support the charge, is also unsatisfactory. He is far more certain of the amount of pain inflicted than even the officer of the Society. If, for instance, it be a wound, and red, and the size of a shilling, never mind whether it is or has been in contact with any harness or gearing, the witness readily says that the animal was suffering great pain, and the wound was new-done. I do not wish for a single moment to infer a doubt of the honesty and veracity of these witnesses. I only say they often give evidence of a misleading nature, for want of a comprehensive knowledge of the subject. Indeed, it is perfectly safe to go a step further, and to say that the magistrates themselves often grievously err in the absence of a more detailed and intimate acquaintance with the exact nature of the case and of its surrounding circumstances.

Another delusion and a snare is the statement made by the prosecuting party during the hearing of the case, that the whole or one-half of the fine will be handed over to the Police Superannuation Fund, or to some local charity. The Royal Society for the Prevention of Cruelty to Animals, if consistently and fairly conducted, is just as charitable and as important an institution as any other, and consequently deserving of its just dues.

A report of the Committee appointed at the British Veterinary Medical Congress in 1881, for the purpose of "further considering the subject of cruelty to animals from a veterinary point of view," has appeared in the June number of the VETERINARY JOURNAL, and has subsequently gone the round of the newspapers. After carefully reading this "code" "formed to guide the public on the points respectively raised," my first thought was that I should not like to see my name amongst the signatories to such a ludicrous list. The mountain has been in labour, and it has brought forth a mouse. A more abortive and puny progeny was surely never produced, especially after two years' gestation.

In what may be considered a violent attack on the Executive of the Royal Society for the Prevention of Cruelty to Animals, I have used generalities, not from any desire to shield myself from any confuting replies. I can give chapter and verse in illustration, and I gladly seek severe scrutiny.

The Society is more of a Society for the Persecution of the Poorer Owners of Animals, than for the prevention of cruelty to the animals themselves.

Practically nothing is done by timely warning, and there is more zeal than discretion in the hurried manner in which most cases are undertaken. One cannot help but believe that if an officer succeeds another in a certain district, the successor feels it incumbent upon himself to have more cases than his predecessor had.

Mr. Woods, in his presidential address to the Lancashire Veterinary Medical Association, in 1883, in briefly alluding to the "cruelty question," suggested that a local committee, with veterinary surgeons upon it, might readily be formed in each district. To this committee doubtful and chronic cases could be submitted for an opinion as to whether the animals were fit to work or not. I would gladly serve upon such a committee without any remuneration whatever, and I often feel that I should like to help and assist the Royal Society for the Prevention of Cruelty to Animals, if it would only let alone these harassing and perplexing cases until it had surer ground to travel upon. Under the present aspects of the cruelty question, a man who owns a deformed or lame horse is at the whim and mercy of the officers of

the Society. If he appeals to his veterinary surgeon for advice, little satisfaction can be given him. The veterinary surgeon, if he thinks the horse is fit for work, may assure the owner to a certain extent, but he cannot obviate the probability of the man getting into trouble. A prosecution for a criminal offence, whether ending in a conviction or a dismissal, is abhorrent and detestable to every right-minded person. Any owner of horses is now liable to a sudden prosecution at the hands of the officers of the R.S.P.C.A. Is this as it should be, or is there any necessity for the present method?

There is sadly too much maudlin sentimentality about this subject of cruelty, and common sense is at a great discount.

In carrying out the original intention of the Provisional Committee of the National Veterinary Association, that this should be a "*minor subject*," I have curtailed my remarks as much as possible. I hope an interesting and full discussion will take place, and that in the future the veterinary profession and the Royal Society for the Prevention of Cruelty to Animals may work more harmoniously and agreeably together in so good and noble a cause as that of helping to make the lives of our "best friends and servants" more pleasant and comfortable.

I hope, too, that it will not be much longer necessary for veterinary surgeons to appear against the Society to keep its officers from exaggerating cases.

Professor PRITCHARD said: Mr. President and gentlemen, I must first tell you that I rather regret the line which this paper has taken, for I fully expected to meet with a greater amount of argument. I find that the greater part of the paper is occupied with the doings of the Royal Society for the Prevention of Cruelty to Animals, and with some remarks which have been made by Dr. Fleming. I will pass over the latter subject. With regard to the former, I, as a member of the committee of the society, could refute the greater part of the charges brought against it. If Mr. Briggs had been better acquainted with the working of the society, I have no doubt that he would have been a little less harsh. Mr. Briggs and I are very old friends, and I am quite sure that anything I may say will be taken in a kindly spirit. I know full well that there is one point in his paper upon which I am expected to speak, and I intend to do so as distinctly as possible. I allude to "docking." There are only about two other causes of cruelty alluded to in the paper. Many times I have been on the point of speaking at public meetings on the subject of docking, but something has always happened to prevent me doing so, and some people have been under the impression that I am afraid to face the subject; but it never entered into my mind to shirk it. I have been almost tempted to think that Mr. Briggs might be of a similar opinion to myself. At page 68—fifth paragraph—he says, "Docking when practised right and left, without discrimination, discernment, or real reason, is brutal butchery, and cannot, under the most favourable circumstances, be performed without more or less pain." Then again, at page 69—second paragraph—he says, "Personally I am as much against docking for docking's sake as any man." In the first quotation we get the words "real reason," upon which my argument will hinge to a great extent. Mr. Briggs has not alluded to any arguments which have been advanced from time to time, as to why docking is necessary; but I have, before now, been made unmistakably aware of what the "real reasons" are, why docking should be carried on by veterinary surgeons. I have had conversation with many who agree that it should be carried out, have had correspondence with others, and have been cross-examined in the witness-box. Firstly, it is said that it is a painless operation. So far as putting the animal into a proper position, and amputating the tail goes, the matter is very quickly performed, and the pain for the

moment is not very great, provided that the division takes place in the joint. But what follows even a successful operation? The wound takes from six days to a fortnight to heal; and a further time elapses before it becomes sufficiently hard to allow of even a slight pressure being made with impunity. The animal suffers during the whole of that time, and never forgets it. I have an example in my stable. The animal is one of the quietest I ever possessed; a child may walk round its legs. You may do what you like with it, except handling its dock. I have not the slightest doubt, that if it had not been docked it would have been as quiet to handle in the tail as anywhere else. This is only one instance out of many. If the operation is carelessly performed, or the tail is divided through the centre of one of the pieces of bone, what takes place? (I will put searing out of the question.) Where pieces of the tail have been sloughing away for three or four weeks, do you mean to tell me that the animal has not been suffering great pain? Why does it resist every time you want to handle the tail? So much for its not being a painful operation. It has also been said, that if the animal is not docked, the tail is very apt to get over the reins. I argue, that a docked horse is far more likely to get his tail over the reins than one undocked. I see some of you shaking your heads; but just take into consideration how a horse's tail is made. It is larger at the upper part, and gradually tapers down to a point; and the smaller it becomes the more pliable it is. People who say that a long tail is more likely to get over the reins than a short one seem to think that the tail is always carried like a poker. If you notice the tail of a horse which has not been docked you will see that it is carried in a curved manner, and when he swings it from side to side he is less likely to get it over the reins than is a docked animal. The finest trotting-horses and the best-conducted horses in the world—the American trotting-horses—are not docked. The rider sits down underneath the horse's quarters, and if the Americans thought that there was any risk of the tail getting over the reins they would try means to prevent it. I am now a practitioner in London, and have been in London for twenty-five years, and, before that, I was in the provinces, and from ten years old to the present time I have been driving horses. At the present time, too, I drive as many miles a day as most of you. Will you believe me when I tell you that never but once when I have been sitting in a vehicle have I seen the accident of the reins getting under the horse's tail, and on that single occasion a youth was driving a docked horse. I come to the same conclusion as the man who wrote a letter to the *Standard* respecting a parson who complained. I think that persons who drive badly had better leave off driving altogether. It is not necessary to keep jerking a horse's mouth in order to keep the reins out of the way. I believe in driving a horse with a light hand. Another argument put forward, is that if the tail is not docked it is apt to come into contact with the splash-board, and become raw, and set the horse kicking. Where is your anatomy when you bring this forward? Is it more likely that a shortened tail will come into contact with the splash-board, or one which is curved in a downward direction? I could take you to some cab-yards in London where probably you would see more horses with sore tails than you ever saw before; but I will guarantee that ninety-five out of every hundred are docked. Another argument is that if a horse's tail is not shortened, when you are tipping up a cart to empty it, the horse is very likely to get his tail under the cart when it is returned, and so it becomes injured. Well, I do not deny that this is possible; but if it is necessary to make carts in this way, why cannot the driver prevent this accident taking place? Is there not a better way of remedying this, than by chopping off the end of a horse's tail? In response to some remarks of mine at a meeting of the Central Veterinary Medical Society, my friend, Professor Axe, said that a horse with a long tail would probably smother a black coat

in which a man went hunting. I have seen a good many hunters out where the tail has been of the full length, but in very few instances have I seen a coat interfered with in this way. Race-horses at least are not docked; but who ever saw a jockey plastered behind? From a paper written by Mr. Stanley one would suppose that the tails of animals were matters of no consideration, that they were simply rudimentary parts of the beast. I look upon the tail in all animals as having important uses, not only when they are still, but when travelling at their highest speed. There is no wiser provision than that shown in the distribution of the cutaneous muscle on the inner surface of the skin. There is a provision for the animal to have the power of removing offending agents by these cutaneous muscles. However, if you take the skin off the quarters, you find the fascia, and an entire absence of cutaneous muscle; and it is the same between the thighs. Why is this? Because, if the animal is left in a state of nature it possesses a means of brushing off the flies from these parts. It has been said that there is as much objection to removing the hair as the end of the tail. This may hold good whilst the animal is in use; but if it becomes necessary to turn the animal up for a rest, the hair will grow, but the tail will remain short always if docked. When the animal is young, at a high speed, and especially in turning corners, the tail is brought into use. If you watch a dog with a shortened tail running after one with a flowing tail, you will see that when they come to a corner, the animal with the long tail will get round with ease, whereas the other has to slacken his speed considerably before he can turn, and in doing so, will run on five or six yards before he can pull himself up. Racing men know that an animal which has been docked is never again brought into as good a condition, or to attain such a high rate of speed as before. Then again, we hear people say to us, "According to your views you should leave off performing other operations." There is nothing in this argument. We castrate our horses because it is a dire necessity, and our streets would be unsafe if it were not done. Then it is said, "But they are not castrated on the Continent." I beg your pardon. It is true that a certain class of horses are not castrated, but they are nothing like the animals we have to deal with. With regard to other operations that are carried out, there are plenty of reasons why they should be performed. I will say nothing further in the shape of argument, but I will add the advice, that you should not form your opinions upon your worldly knowledge of this matter. Do not be influenced by the idea that so much business will be lost (signs of disapprobation). I will appeal to your consciences when you are sitting quietly by yourselves, and I will then ask you to say whether you honestly think that there is any "real reason" for docking a horse, except under exceptional circumstances; circumstances which, in my opinion, are very rare. In cases where the dock is diseased, or where an accident has happened to the tail, its amputation may be desirable; *but except in such cases, I say that docking is cruel.* There were one or two other points mentioned in Mr. Briggs' paper, with which I will deal, as to deformities in horses being mistaken for lameness. There may be cases where deformities, not giving rise to pain, have been mistaken for cruelty, and, in some few instances, individuals owning these horses may have suffered. But there never was an institution which, in carrying out a great and good work, did not, quite unintentionally, commit some little wrong. I look upon the working of a horse with a club-foot as an act of cruelty, unless the work be slow, and the weight moderate. I will ask you to fairly refute the arguments if you can, but let us have no wanderings from the main line.

The PRESIDENT: You have heard Mr. Briggs' Paper fairly and fully discussed by Professor Pritchard. We shall now be glad to hear any other gentleman who has anything to say upon this important subject.

Professor AXE: Mr. President and gentlemen, I came here with the determination to be resolute, and to say what I had to say, in that spirit in which it has been suggested by Professor Pritchard; one man should deal with one side of a question, and another with the other side. But really, listening to the pathetic appeal he has placed before you, to his masterly mannerism, upon my word, I felt that my spirits were beginning to fail. (Laughter.) I will ask you to follow Professor Pritchard's suggestion, and to keep well within the line. Not to deviate, but to endeavour to decide his question, viz., Is the operation of amputating a horse's tail a cruel one? It is no use you attempting to decide what constitutes an act of cruelty until you have answered the question, "In what does cruelty consist?" I shall suggest to you, subject to the contradiction of those gentlemen who are adversaries, and I believe, honestly so, that cruelty consists—to take the general acceptation of the term—*in the unnecessary infliction of pain*, and I shall consent to discuss the question upon that definition of cruelty. I will supplement what I have to say by stating that it matters not for the infliction of cruelty that a man should be an active agent; he may be a passive one, but yet inflict cruelty. If you possess an animal, and know that that animal is suffering, and do not take steps to relieve it, that, in my opinion, constitutes an act of cruelty, notwithstanding your passive position. At one time, I thought of making some remarks not exactly extraneous to the subject, but Professor Pritchard has set me such a good example, that he has imbued me with a spirit which will prevent my making any personal remarks. But although I desist from this, still, it is a matter which might have been introduced into this debate, and upon which a good deal hinges. With reference to our relations with the Royal Society for the Prevention of Cruelty to Animals, we all have a very great regard for that Society and every one connected with it. We share in all its hopes and aspirations, and I venture to think that there is not one member of our profession who will not, when the time comes, exercise every quality he possesses, both moral and scientific, to prevent the perpetration of any act of cruelty. It is a question not between us and the Royal Society for the Prevention of Cruelty to Animals, but between us and the law. Now for the "real reasons" why docking is pursued. Professor Pritchard has brought to your notice a number of reasons why docking should be carried out, but not such reasons as you and I will render here to-day. They are the pickings of newspapers and not substantial reasons, upon which we shall base the legitimacy of the operation. Is there a gentleman who would say that docking is a painless operation? (Cries of "No.") Then why adopt this argument? Every gentleman, educated as he must be, knows that the tail contains sensitive structures; that you cannot damage a sensitive structure without pain. Where is the necessity for refuting this argument? We admit that the operation is a painful one, that the subsequent effects are painful, whether they be immediate or remote. There is one point in connection with the subsequent effects of the operation upon which Professor Pritchard has dwelt. He tells us that the wound at the end of the tail remains for a considerable period, if not for the whole of life, in a sensitive condition, and he produces an example. I will not refute that example, because what he says must be a fact. But I say, as a matter of fact, that when a horse has been docked, the cicatrice at the end of the tail never afterwards has the physiological sensibility peculiar to the undocked tail. I challenge Professor Pritchard to refute the assertion. Try an experiment yourselves, by pricking with a pin the extremity of your horse's tail, and then prick the body of the tail, and draw your own conclusions. Professor Pritchard says that the horse never forgets the operation. But equine psychology has not advanced to that stage of perfection which enables us to understand what is going on

in the mind of a horse. Professor Pritchard says that when a portion of a horse's tail is removed, there is a greater liability for that animal to get the tail over the reins. That is true. But this matter is not to be settled upon the question of whether a horse more frequently gets his tail over the reins when it is long or short. We admit the fact, for fact it is. But we say, "What is the cause of those untoward accidents which happen when a horse gets its tail over the reins?" It is not the fact of getting the tail over; it is getting it away when the accident occurs. It only requires the exercise of a little common sense to see that the tail may be got away from the reins with much greater facility when it is short than when it is long. Following in the track of my friend, we come to American horses. In fact, in dealing with this question, Europe has been canvassed for examples of horses which manifest extreme docility and have long tails, and now America is quoted. In alluding to the trotting-horses of America, Professor Pritchard has referred us to an exceptional state of things. It is not to the purpose to tell us that when American trotting-horses are being driven the driver sits close upon the animal's haunches, and that in the event of the tail getting over the reins it would be simply a "click" and the tail would be freed. In discussing this question even the crocodile has been called forward with a view of proving something which required no proving. The tail—as we know—answers a good and wise purpose, being given to the animal by a good and wise Creator, but may we not under the circumstances of domestication in this country be justified in removing a portion of the tail without having the stigma of cruelty attached to us? I do feel that I am occupying too much of your time (cries of "Go on.") We are told that people who cannot keep the tail away from the reins are not fit to drive. This seems to be a gratuitous expression of weakness. Are our children and wives, and perhaps ourselves—for there are doubtless those who, like myself, are not good at the reins—to discontinue the enjoyment of a drive because we do not happen to be expert drivers? I say that this will not hold water. The question of friction on the splash-board is a very trifling one. A horse will quickly let you know that it will not tolerate the splash-board. There is not one of the arguments that have been spoken or written which will hold water. I shall be pleased to enlarge at some future time upon what justifies the operation.

Mr. HUNTING (London): It was a most ingenious arrangement on the part of Professor Axe to sit down at the end of his speech with the remark that at some future time he should be pleased to justify docking. The professor is one of our best speakers and one of our ablest teachers, yet so weak is his case that in twenty-five minutes he has failed to adduce one single argument to justify what he allows is a painful operation. Mr. Briggs's paper utterly fails to justify docking, and Professor Pritchard, to make a clear case, has to fall back upon arguments used by other veterinarians. His refutation of them is, to my mind, complete—so complete that I need add nothing to his remarks. But why all this professional excitement? Mr. Briggs tells us. On page 66 of his paper he says, "It is when the Society stretches its arms too far, and plunges promiscuously into prosecutions, seriously interfering with rights and privileges which certainly ought to be enjoyed by respectable veterinary surgeons, that affections are alienated, assistance refused, and an attitude of hostility assumed." This is where the shoe pinches; it is our professional jealousy. This, too, was shown by a resolution of the Midland Veterinary Medical Association to the effect that "docking is justifiable when performed by a scientific veterinary surgeon." I ask any of you, Is it impossible for a scientific veterinary surgeon to perform an act of cruelty? (Mr. Hunting was here interrupted, and reminded that the resolution referred to contained the words "when necessary.") I accept the correction with pleasure, but who is to decide? Professor Axe alluded to

harness-horses; but are not hunters docked more frequently than these? and as for coach-horses, they are docked until they hardly have a tail at all. I know that none of us dock a horse under the idea that we are committing an act of cruelty. You do not allow the whole extent of the question to be faced. You back up Mr. Briggs when he makes the statement I have referred to on page 66, but you hiss when it is repeated to you here, in other words, because you know that it is true. There is in Mr. Briggs's paper one of the most insulting remarks I ever met with. At page 70 he says, "A report of the Committee appointed at the British Veterinary Medical Congress in 1881, for the purpose of further considering the subject of cruelty to animals from a veterinary point of view, has appeared in the June number of THE VETERINARY JOURNAL, and has subsequently gone the round of the papers. After carefully reading this 'code,' formed to guide the public on the points respectively raised, my first thought was that I should not like to see my name among the signatories to such a ludicrous list. The mountain has been in labour and has brought forth a mouse. A more abortive and puny progeny was surely never produced, especially after two years' gestation." As to this, I have to say that the Congress appointed the Committee, and all that they did was to embody what the Congress had said and done.

Mr. SIMPSON (Windsor): I apologise for rising, because my views are already well known, and I have thought it my duty to bring the matter before the Council of the Royal College of Veterinary Surgeons, to elicit their opinion. I may say that, like Professor Pritchard, I should like to see this subject discussed in a fair and gentlemanly manner without reflections upon any one. I do say that the veterinary profession has not been treated in a proper way. We are told in the Press that the veterinary profession are opposed to what the Royal Society for the Prevention of Cruelty to Animals desires, and that we are not in a position to give an impartial opinion upon the matter. What does that mean? There is another statement made upon oath with regard to this subject—viz., that not merely many veterinary surgeons, but officers and soldiers are strongly opposed to docking, and there is a remark appealing to veterinary surgeons not to stand sponsors for swells and mashers. These things are likely to bring us into contempt, although I hope that the day has gone by for that; for we have spoken out with no uncertain voice. As to the committee appointed by the Congress, I do not suppose that that committee was opposed to docking. The resolution that was carried by the Council of the Royal College of Veterinary Surgeons might appear not to be in harmony with the committee appointed by the Congress. The committee told me that they approved of it. So that there is no difference between that committee and the Council of the Royal College. With regard to the statement that not merely many veterinary surgeons, but officers and soldiers are opposed to it, is this a fact? Is it a fact that army horses are not docked? that the operation has been prohibited in the army for twenty years? I have had the pleasure of living in a garrison town all my life, and I can say that a great many of the horses are docked. I find that the remounts are purchased ready docked. I think that we should consider what those connected with hunting and coaching think of this matter. Do you mean to tell me that those gentlemen who drive the coaches in the Park are mashers and swells? Do you not know that you will not find a more humane man than he who drives his coach or keeps hunters? Do you suppose that he would allow his horse to be docked if it was not necessary? I do say that the Royal Society for the Prevention of Cruelty to Animals should admit that those who keep horses are the best judges on this point. If they want to stop docking they should do it in a legitimate manner, and get friends in the House of Commons to bring in a Bill, and then if their cause is a good one they will get more friends every

year, and they will leave alone veterinary surgeons, so far as prosecutions are concerned. It is the first time within my recollection that I have felt my liberty of action interfered with. I do hope that the Society will seriously take to heart the real opinion of veterinary surgeons, and that they will take such steps as I suggest to put a stop to docking by persons who do not know how to do it. I think that this meeting here to-day shows that our profession is worthy of some consideration. I may say that I think many polo ponies are docked to an excessive degree.

Mr. MCGAVIN: I think that, as a rule, docking is not done by veterinary surgeons. The question arises, Who docks horses? I believe it is done at the blacksmith's shop or by horse-dealers. Professor Pritchard says that a great many horses that are docked are a long time recovering. I have not seen this to be the case, and where it is it must be because the operation is imperfectly performed. The blacksmith, or some such man, chops it off without ever feeling for the joint, and so irritation is set up and we get a bad case. This is a question for the veterinary surgeon rather than the law. As to bad drivers, we know very well that there will always be such people. As soon as a man has made a little money in business, he will get a horse and trap, although he may never before have driven a horse. It is certain that those who drive a horse with a long tail are more likely to meet with an accident than those who drive one with a short tail. The paper is on "The Prevention of Cruelty to Animals." I maintain that man is an animal of a higher type, and, with all due deference to Dr. Fleming and Professor Pritchard, I say that there are, in the workings of the Society, carried on as they are by magistrates who know nothing about science, very many cases of cruelty to our poorer brethren. With all due respect to those who are at the head of our profession, I say, Is it not cruelty to lend your scientific knowledge to the unjust prosecution of these poor people? I say, "Exercise charity." Charity covereth "*a multitude of sins.*"

The PRESIDENT: Gentlemen, we have now present the Secretary of the Royal Society for the Prevention of Cruelty to Animals; I am sure that you will be pleased to hear him.

Mr. COLAM: I am not a public speaker, but a talker; and if I do not vie with Professors Pritchard and Axe you will, I know, pardon me. I will, at all events, promise you that I will not occupy twenty-five minutes of your time in adducing arguments which do not require to be refuted. From remarks which I have heard, it strikes me that there is a feeling in this room that veterinary surgeons ought to be regarded as above the law. But, whatever a man may be, he must suffer the penalty of breaking the law. In this there is an equality, and the question to be determined is not whether a man who performs an act of cruelty is a veterinary surgeon. The real question is this, viz.: Is it an act of cruelty or not? I will not enter here at great length into the question of docking. Mr. Simpson says that the Society should not prosecute in these cases; but it does so in everything else, and I do not see why it should not do so here. He says also that we should go to the House of Commons for a declaration that docking is an act of cruelty. This is scarcely practicable. You cannot go to the House of Commons to ask them to settle every comparatively small question. An Act of Parliament is a general thing.

Mr. SIMPSON here interposed, and said that an Act had been brought in against pigeon-shooting. (Hear, hear.)

Mr. COLAM (continuing): It may be that there has been an Act of Parliament brought forward to suppress pigeon-shooting, but it was turned out. The law itself, as maintained by the Society, already contended that pigeon-shooting, when there was any cruelty, was an act of cruelty notwithstanding the patronage it had from influential persons. If you say that

veterinary surgeons ought not to be interfered with by any movement for the benefit of animals you are putting yourselves above the law. I may say that I have not had time to study Mr. Briggs' paper, but in coming here by train I made a few notes. The object of the paper is stated to be, to bring about a more sensible way of preventing cruelty to animals. I am always very glad to learn, and if I can gain fresh information here I shall be delighted; I am continually learning from veterinary surgeons. But the paper does not tell us how to put down cruelty. The only suggestion which at all deserves the name of "instructive" is that in the third paragraph on the last page. The paper should be entitled "How *not* to prove Mr. Briggs' propositions." It tries to prove to us that the Royal Society for the Prevention of Cruelty to Animals, the officers of the Society, the police-constables, the Committee of the Congress, are all wrong, and nobody seems to be right but Mr. Briggs of Bury. It condemns the very foundation of English jurisprudence. Let us now look at the proposal contained in the sixth paragraph on page 70. In 1883 the President of the Lancashire Veterinary Medical Association is reported to have suggested as follows :—"That a local committee, with veterinary surgeons upon it, might readily be formed in each district. To this committee doubtful and chronic cases could be submitted for an opinion as to whether the animals were fit to work or not." Mr. Briggs then remarks, "I would gladly serve upon such a committee, without any remuneration whatever, and I often feel that I should like to help and assist the Royal Society for the Prevention of Cruelty to Animals if it would only let alone those harassing and perplexing cases until it had surer ground to travel upon." Suppose that this committee is appointed in some of your agricultural districts. First of all the question arises: Who is to appoint it? How would they set to work? Who would make the members meet? You know what I mean. I mean when it was necessary to decide a case of cruelty. Who would bring the horses and the persons to this committee? They would have to arrest persons to bring them. Who is to arrest, except the police-constable? As cruelty occurs all day long, the committee must sit permanently. Are they to be taken to markets and fairs? How is this committee to work? Perhaps you will say that one member might be deputed? But who is to be that member? Will the others join with him? Dr. Fleming and Mr. Briggs, will they agree? I say that veterinary surgeons are much divided in their opinions. I have heard of those who have been in favour of trimming and cutting off the ears of a horse (cries of Name"). I shall not give names. I have heard other veterinary surgeons *advocate* (?) starving a horse. (Much disapprobation was shown here, and considerable interruption took place.)

Mr. SIMCOCKS said: If these assertions be true, the persons alluded to deserve the reprobation of the profession. I ask Mr. Colam to state names.

Mr. COLAM (continuing) said: I must apologise for having made the statements without now giving names. I shall take the very first opportunity of doing so in print. I will proceed by saying that one of the most eminent men defended before the Privy Council the keeping of animals for thirty-six hours without water during transit. Even if the committee recommended by Mr. Briggs were practicable, I do not see the advantage of it. At the present time every case which is prosecuted by the Society passes through my hands, and the Society calls in veterinary surgeons to its aid to every case which is doubtful. I know that even now there is a discussion going on in which a veterinary surgeon has contended that the overstocking of cows cannot be cruelty.

Professor WILLIAMS: Let us make ourselves into a Committee and determine this question. It is said that an act of cruelty is to illuse, abuse, or

torture. I ask you if any of these terms can be applied to docking? I know that almost to a man you will agree with me that they cannot. I have no time to enter into the question. I do not believe that docking is an act of cruelty. Some little pain is inflicted, but it causes the animal little or no inconvenience. In the next place I will say that the operation is necessary, and in the third place I will ask you whether we are to tolerate the interference of a Society like that for the Prevention of Cruelty to Animals in an operation which is necessary? Listen to what Mr. Colam says, "With regard to docking of horses, I am in a position to state that it is considered cruelty, and if I can catch a member present docking a horse I shall prosecute him." There is the thin end of the wedge, put in by a Society supported by members standing high in our profession, to interfere with the privileges of every veterinary surgeon as soon as he obtains his diploma. I say that the possession of that diploma places the veterinary surgeon, in so far as relates to the performance of an operation deemed necessary, above the law. I trust that you will raise a strong voice against this interference on the part of a Society which has been assisted out of many difficulties by veterinary surgeons. We cannot hear accusations brought against veterinary surgeons for supporting various forms of cruelty without showing indignation.

Dr. FLEMING: Mr. President and gentlemen, I regret that this matter has not been fairly discussed. I think that we have departed to a large extent from the subject in treating of only a small portion of it, and leaving the wider phase of the question of cruelty to animals from a professional point of view. In 1881 at our Congress, the subject was fairly well discussed and certain conclusions were arrived at. They were embodied in a report drawn up by a Special Committee. With that Report I agree, condemn it as you may. I am perfectly certain that it is a report which will carry with it public opinion, whatever some may think. Now, sir, I think that this question of cruelty is a difficult one to discuss. To some minds, cruelty is a pleasure, to others it is an abhorrence. It is impossible to define what cruelty is from the point of view of different individuals. I will say that if our profession was not a humane profession, I would leave it to-morrow. I say that if it does not stand on the basis of humanity it can stand nowhere. Unless we assist in the alleviation of cruelty to animals we do not deserve the name of a profession. I have heard nicking advocated because it made a horse look better, and I have seen horses nicked and docked on the same day. I have seen ear-machines. Will any veterinary surgeon say that ear-machines and nicking are necessary now? The day is coming when docking will be placed in the same category. We are the only nation in Europe which dock horses. Nicking and docking were introduced on to the Continent from this country. You will find that in Germany and France to nick and dock a horse is to "Anglicize" the animal. An operation which is painful and unnecessary is a cruel operation. I maintain and can prove that army horses are not docked. Cavalry horses are not docked. I do not know of one which is docked. The fashion of docking is so prevalent elsewhere, that it is difficult to obtain horses which are not docked. The Adjutant-General has issued instructions that docked horses are not to be bought for the Army if it can be avoided. I can tell you that, so far as I know, Her Majesty the Queen has never had a docked horse in her possession. The Commander-in-Chief has had as wide experience with horses as any one here; he abhors docking, and orders officers off parade if they are on docked horses. Every officer who understands horses has a great dislike to docking. You say that it is necessary to dock horses to insure safety. Go to any other European country, and you will see undocked horses driven by bad drivers. Only quite recently there was an article in a sporting paper, in which hopes were

expressed that the practice of docking would not be introduced into the United States. Why should horses be docked in England any more than elsewhere? Even in this country the custom is not universal. In Lincolnshire and Eastern Counties generally you will see the cart-horses undocked, and in Kent the same thing prevails. I do maintain that the act of docking makes some horses difficult to handle afterwards. The horse has a most tenacious memory. Let those gentlemen who say that this is a painless operation undergo it themselves. Prove to me that docking is really necessary and I will not say a word against it. In 1869 action was taken by the Society for the Prevention of Cruelty to Animals against the cropping of dogs' ears. I appeared as a witness. The movement was said to be stirred up by maudlin sentimentality. But there is another motive than this with which we were wrongly said to be imbued. We must give animals their rights. I do not stand here for twenty-five minutes talking platitudes, nor shall I sit down and tell you that I will give you my reasons at some future time. I have made inquiries, and find that in the majority of cases it has been the docked horse which has got his tail over the reins. You may make much capital out of the fact of my appearing with Professor Pritchard in the witness-box. But you must attend a trial when you are served with a subpœna, and I trust that the day will never come when a veterinary surgeon will make a false statement in the witness-box to shield any man. I have had a long experience in nearly every part of the world. I know the utility of the horse's tail, and I say that no greater infliction can be put upon the animal than to mutilate that member. So far as Mr. Briggs' Paper is concerned, I hardly endorse any part of it. I have taken my stand, and shall not recede from it. It is my desire that our profession should figure as the friend of animals. I have had the honour of being associated with the Royal Society for the Prevention of Cruelty to Animals, and I deny that anything has been done by it which can be called unfair.

Mr. SIMCOCKS: I desire to protest most strongly against what I must call the insulting utterances of the representative of the Society for the Prevention of Cruelty to Animals. A more uncalled-for declaration I have never heard. I will not enter into the question of docking. I came here to be enlightened. But, so far, opinions seem to be equally balanced. One section says that the horse is safer to drive if the tail is docked. The other says that this is all wrong. I must say that I fail entirely to see why the profession should stop docking simply because a lot of military magnates disapprove of it. I venture to say that any veterinary surgeon has as good a right to express an opinion as the Duke of Cambridge. I propose that we obtain a decision in a court of law. Let Dr. Fleming and Professor Pritchard on one side, and Professors Williams and Axe on the other, state their views and let the magistrates decide. Or, if necessary, let the matter be brought into a superior court to be settled. I say that it is unbearable that an officer of the Society for the Prevention of Cruelty to Animals should be able to prosecute as he can now. The matter is purely professional. I think that we might with advantage devote some of the funds of the Association to the proper settlement of the question.

Mr. PETER TAYLOR: Mr. President and gentlemen, at the commencement of my remarks I will say that I do not think it right that in an English country a member of the Society for the Prevention of Cruelty to Animals should be allowed to go into the witness-box and give evidence on behalf of that society. No man has the best interests of our profession more at heart than I have. I say that it is damaging to that profession, and it will be injurious to it hereafter, when the facts of the present day shall be recorded in history, that a learned practitioner should come forth from the metropolis and give evidence against professional men for carrying out a legal profes-

sional operation. If anything will damage our profession more than this, I have yet to learn what it is. I believe, in Shakespeare's words, "To thy own self be true, and it must follow, as the night the day, thou canst not then be false to any man." A good deal has been said this afternoon about pounds, shillings, and pence. I appeal to any of you. Is there any professional man who would dock a horse for five shillings? The learned doctor tells you that he has delayed days before he could perform an operation. It would not take you two minutes to perform this one. Is an enlightened English veterinary surgeon, in this nineteenth century, after he has been educated in anatomy and physiology, to be told when he is performing an act of cruelty? The lower animals have been given to man for his use. The operation of docking does increase the value of a horse. We have animals with wicked tempers to deal with. A horse continues the vice of kicking until I dock him; after that he does not do it again. Are we to be dictated to by men who never were educated in the science of any profession, who occupy the positions they do through their having done something to please those who have the power to place them in office, where they have no right to be. Let us look at all the aspects of the cruelty question. We shall see, then, that the Society for the Prevention of Cruelty to Animals is guilty of much cruelty. A poor man with a horse, which, like himself, has to work hard for a living, may be going to Smithfield Market. The man and the horse are locked up, and a veterinary surgeon does not see the case until the next morning, when the man is in the police-court. Who knows the loss entailed in a case like this to a poor man? If we must have a society like this, let us have a professional man, with scientific knowledge, and let him seize the horses, and not a man who has no knowledge of disease. We will not be robbed of our position, for which we have paid so much, and the decision as to when docking is necessary or judicious shall rest with us.

Mr. HOPKIN: I am sorry at the turn the discussion has taken, and that Mr. Colam came in the spirit he did. Every right-minded veterinary surgeon is anxious to help the Society to suppress cruelty, but I do not see why we should be expected to sit here quietly and hear the charges Mr. Colam has brought against our profession. I do not know any of its members who would do anything of the kind he has alluded to. We have had to suffer a good deal in our district from the manner in which the local Society for the Prevention of Cruelty to Animals has carried out its work. It has acted often very unfairly, and it has only been on these occasions that veterinary surgeons have taken action against it. I quite endorse the statement made by Mr. Taylor that the Society has been exceedingly cruel. I know of many cases where it has been the means of the home being broken up and the family having to go to the workhouse. I do not believe that the object of the central body of the society is to obtain the greatest possible number of convictions; I believe the object of that part of the society is to suppress cruelty; but I cannot say this of the local society. In every case in which I have had to act I have been treated more fairly by the Royal Society than by the local society. As to this question of docking, I think that we have a stronger case than has been represented. I could refute all the arguments of Professor Pritchard if time permitted. I should like to impress upon Mr. Colam that he may take what action he likes, but that he will never put a stop to docking; as long as there is a demand for docked horses, they will be produced. I do not believe that veterinary surgeons crop dogs' ears. How many fox-terriers do you see with their tails on? not one in a hundred. But the tail-cutting is not done by veterinary surgeons. And if horses are not docked by veterinary surgeons the operation will be performed by incompetent men. There is more cruelty in drawing the teeth of four-year-old horses than in docking their tails. The illustration brought forward by

Professor Pritchard of a quiet horse which would not allow its tail to be touched does not prove anything. This very likely did not arise from docking; the animal had probably been "gingered." I can take you to very many cases where you shall handle the tails of docked horses and the animals will not move. Mr. Pritchard says that he has been long accustomed to driving, but never saw the necessity for docking. This is all very well whilst you have a horse not given to kicking, but suppose it is otherwise. We admit that the tail has its uses. Meet us fairly, and we will meet you.

Mr. HUNTER: I should like to say a few words as to why the Society has lost caste with veterinary surgeons in large towns. I have known many instances where the officers of the Society and policemen have exaggerated cases. In many prosecutions the wounds have been, so to speak, a mere nothing. By these means the Society gets into disrepute. I know a case where a boy was sent to prison for fourteen days for working a pony. His mother came crying to me to advance the money to pay her fines. I think that the officers should be told not to be over-anxious for convictions.

Professor WALLEY: In the first place, I must say that I extremely regret the turn this discussion has taken, and there is not a man in this room who will not regret it before to-morrow is over. I do not say that any one is to blame for it, but it certainly will not lead to the solution of a question of this kind. I can quite understand that from the remarks which have been made, the minds of many men have been heated, and words have been employed which would not otherwise have been used. I have known the Society for the Prevention of Cruelty to Animals for a number of years, and many of those connected with it are my best friends. I know that its supporters are actuated by the best of motives. At the same time, I do think that the Society frequently gets itself into disrepute by interfering in cases which ought to be left alone. A poor man goes about from day to day with a sword over his head. He perhaps works hard for a living, when suddenly he is dragged up to the police-court, without the slightest warning. I am speaking now of the local societies. The poor man very likely commits his so-called crime in utter ignorance. He goes out in the morning with his horse perfectly sound, but before he has gone far his animal falls lame, and he is treated in just the same way as others who really deserve punishment. In Edinburgh wherever a horse is found lame like this, it is sent to me to give an opinion as to whether the man should be prosecuted. I say *that wherever a man is caught in an offence he should be warned, and then fined if he repeats it.* If the Society would insist upon this, all bad feeling would be done away with. With reference to this question of docking, you will see if you look in the VETERINARY JOURNAL, I think in the report of the introductory address I gave in Edinburgh, I said that any one who has been hunting must have experienced the unpleasantness of having the mud switched all over his neighbours and himself. You will say, "You can cut the tail. Yes, you can; but, gentlemen, I think that in this discussion we have gone entirely off the groove. We ought to have proved whether docking was necessary or not, and if it is not necessary, we should decide to discontinue it. I do not know whether I am subject to prosecution if I state my opinions openly, but there are cases where I should not hesitate to dock a horse. I have had owners come to me saying that they could not drive their horses for fear of an accident. In these cases I do not hesitate for an instant to dock the horse. The question of pay has been introduced. I would ask you, gentlemen, Do we go about the world for what we can get? Do you or I, or does any veterinary surgeon, dock a horse for the sake of the paltry five shillings? I would much rather pay the owners the money to take the horse out of my yard. Let a question of this kind be argued upon its merits. The greyhound, it is well known, uses its tail to steady itself,

but it may occasionally be necessary to dock it. Whilst all this heated discussion has been going on, you have forgotten a lot of subjects. There is the question of putting a cow upon her back in a case of inversion of the uterus. The first case I saw was where the uterus had been out several hours. We tried to put it back without putting the animal upon her back, but we could not. We did it with the object of preventing the straining. Another question is that of unsoleing horses' feet for Ringbone. I condemn this *in toto*, and I think that you will agree with me. We ought to settle these questions, as well as others. Then there is the subject of drawing teeth. I hope that when these questions are discussed, personalities and strong language will be expunged from the debate, and that it will be carried on in a kindly spirit.

The PRESIDENT: We all know what cruel people there are in the world, and it is right that a Society of this kind should step in between the inhuman brute and his dumb animal. I admire the Society, and trust that the veterinary profession will hold out friendly hands to it. I will now call upon Mr. Briggs to make his reply.

Mr. BRIGGS: As the time at our disposal is so short, I will say as little as possible. Professor Pritchard stuck to docking pretty well, and I am glad that he so freely expressed his views. But the discussion appears to have gone entirely wrong, and upon a different line to that which was in my mind when I wrote my paper. I will not dwell upon what Professor Pritchard has said about docking. I think that this agitation will prevent a good many from docking horses where they would otherwise do so. But if I have a mare which, although she may not kick, yet switches her tail, or carries it in a crooked manner, I will dock her, in spite of Mr. Colam or the Society. We have not heard anything about fashion to-day. You hear people talk about the British public being educated to the ideas of the Society for the Prevention of Cruelty to Animals. The fact is, that docking is more in vogue now than it was a few years since. As to the cutting of dogs' tails, alluded to in this discussion, do we do it? No. It is done by the dealers. I distinctly think that Mr. Colam has no right to say to me that I am not to dock a horse. We should judge for ourselves. Mr. Colam says that he is very glad to learn from veterinary surgeons. Does he act upon their suggestions when the facts of a case are against him? With regard to the suggestion of the President of the Lancashire Veterinary Medical Association that a local committee, with veterinary surgeons upon it, should be formed in each district, Mr. Colam says that it would be impossible to form these committees to go into these matters. As to this, I would say that his own committee exists, and I do not see why we should not have the others. It is all very well for him to say that doubtful cases are always submitted to veterinary surgeons. I must be permitted to tell him that he is mistaken. They take a man to the police-court, lock him up, and try the case on the same day. One morning in this month, to my own knowledge, a man was marched off and fined ten shillings and costs, there and then. Then, again, when a charge is submitted to the Society, it sends some one to inspect, perhaps, and he takes off a horse's shoe, or something of that kind, without consulting any one. Dr. Fleming takes a stand which I am pleased to say that very few in our profession do. He also says that in Yorkshire the cart-horses are docked, but that in Lincolnshire and Kent they are very often undocked. I do not think that the men in Yorkshire are harder-hearted than those in Lincolnshire or Kent. I will finish my remarks by quoting the last paragraph in my paper: "I hope, too, that it will not be much longer necessary for veterinary surgeons to appear against the Society, to keep its officers from exaggerating cases."

Professor AXE: I regret very sincerely that this discussion should have taken such an unfortunate turn, but it would be a pity if it turned out to be in-

operative. I trust that we shall go away wiser and better men, more fully understanding the little knotty points of the question of docking. It is to be hoped, too, that the Society for the Prevention of Cruelty to Animals has now a better appreciation of the views of the veterinary profession upon this subject, and that the discord of to-day may lead to harmony to-morrow. I think that we should pass a resolution as follows: "That in the opinion of this meeting, the operation of docking horses is a means of averting danger to man, and conducive to the benefit of horses and is therefore a necessary operation."

Mr. HUNTING (of London): I propose that we read "when," instead of "is."

Mr. J. LAMBERT: We cannot go anywhere without seeing that docking is carried out to a ridiculous and, in some cases, indecent extent. I shall propose to put an amendment to the effect that "This meeting condemns the indiscriminate and unnecessary docking of horses."

Some consultation then took place, as a consequence of which Mr. Lambert agreed not to press his amendment.

The following expression of opinion was then read by Professor Axe, and agreed to by the meeting:—

"*That, in the opinion of this meeting, the operation of docking horses is a means of averting danger to man, and is not cruel when shown to be necessary.*"

A vote of thanks was then, on the suggestion of the President, awarded to the Governors of the Victoria University, for the free use of the hall for the meeting.

Professor WALLEY then said: I am very pleased that it has devolved upon me to propose a vote of thanks, which I am sure will meet with your cordial approval. It has been a great pleasure to me to come to Manchester, and assist in your deliberations. I ask you to pass a unanimous vote of thanks to Mr. Greaves, our President. You will agree with me, that he has done all he could to make our meeting a success. I only fear that our Lancashire friends have been too kind, and have established a precedent which other towns will not be able to follow; nevertheless, I am sure we shall be very pleased to do what we can when the day comes round for you to meet in Scotland.

Professor WILLIAMS: I can endorse every word which Professor Walley has said about our President. I congratulate Mr. Greaves upon one of the crowning successes of his life. He has worked hard for our profession during a practice of fifty years. I beg to second Professor Walley's proposition that a vote of thanks be accorded to our President.

This motion was passed unanimously.

Mr. GREAVES: This has been one of the proudest days of my life. It is a source of the deepest gratification to me to be rewarded by your thanks. I thank you, gentlemen, from the bottom of my heart. Your thanks are not due to me alone, but to others who have assisted me in endeavouring to make this meeting a success.

A vote of thanks was then passed to the writers of the Papers, the Provisional Committee, the Secretaries, and to Professor Tuson.

During the meeting the following subjects were brought before the members of the Association:—

1. *The question when and where the next General Meeting of the Association should be held.*

The PRESIDENT: At the last Council Meeting, Edinburgh and Birming-

ham were selected, but the vote of that meeting was in favour of Edinburgh. This is simply the recommendation of your Council, and it is for this meeting to approve of it or not as it sees fit. The matter is in your hands for you to decide by vote.

Mr. PETER TAYLOR: At present we are few in number, but let us hope that this will not long be the case. Although I intend to propose Edinburgh as the place for our next meeting, I think that it is necessary, first of all, to come to a definite conclusion as to how often these meetings should be held. In my opinion, they should take place every two years in some large town. I think a strong reason why we should select Edinburgh is, that the object of this Association is to diffuse knowledge north, south, east, and west, and I hope that Professor Williams will be the President, for a more active and zealous man we have not in the profession.

Mr. MOIR: I shall have much pleasure in seconding the motion that the next meeting be held at Edinburgh; and I also hope that Prof. Williams will be President.

Mr. STANLEY: We have received many replies to a circular issued to the veterinary surgeons of the Midlands, in accordance with the suggestion at the last General Meeting, and these answers are in favour of the next meeting being held at Birmingham. As an amendment, I therefore propose that it be held at Birmingham next year.

Mr. GREAVES: Before we proceed farther, I should like to ascertain your opinion as to whether the meetings shall be held every year, or every two years. In Scotland we have not many members of this Association, but in the Midland Counties we have a large number.

Dr. FLEMING: The object of our Association should be to obtain the largest possible number of members at its meetings. It is evident that if we go to Scotland, we shall have a very small attendance. We have only seven gentlemen in Scotland who belong to this Association. The Midland Counties have loyally supported us. Birmingham only lost the choice last year by one vote. I think that we are in duty bound to go to the place which offers us the greatest prospect of a successful meeting. With regard to the interval between our meetings, I think that it should be two years. Looking at the paucity of subjects for discussion, I am of opinion that we should run ourselves too hard if we held annual meetings. But in order not to frustrate any plan for the Edinburgh one, two years hence, I suggest that the question of meeting every two years be deferred until next year.

Professor WILLIAMS: I am very sorry that my name has been mentioned in connection with the meeting in Edinburgh. The question is whether our meetings shall take place annually, or every two years. My opinion is that the latter would be the best. I may state here that we in Scotland are inclined to think that you in England have a tendency to give us the "cold shoulder"; that you appropriate to yourselves meetings in London, Manchester, and now in Birmingham, and that the reason why you have so few Scotch members is that you do not come among us. Look at the last annual meeting of our local society. We had eighty members at the dinner, and more than that at the meeting.

Mr. BANHAM: I think I ought to inform this meeting that no one section of our profession was excluded when this Association was formed. *An invitation to join the Association was sent to every member of our profession in England, Scotland, and Ireland, and also to every holder of the veterinary certificate of the Highland and Agricultural Society* who was not a member of the Royal College of Veterinary Surgeons. No answers, however, were received from any of the Highland and Agricultural Society's graduates who are not members of our College, and very few from Scotch veterinary surgeons at all. As to the place of meeting next year, the Mid-

operative. I trust that we shall go away wiser and better men, more fully understanding the little knotty points of the question of docking. It is to be hoped, too, that the Society for the Prevention of Cruelty to Animals has now a better appreciation of the views of the veterinary profession upon this subject, and that the discord of to-day may lead to harmony to-morrow. I think that we should pass a resolution as follows: "That in the opinion of this meeting, the operation of docking horses is a means of averting danger to man, and conducive to the benefit of horses and is therefore a necessary operation."

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land Counties' Society have invited us, and we ought to give the preference to them on that account. As Dr. Fleming says, it is useless to go where we have so few members. I may add that I personally asked many of our Scotch colleagues to join us, which is more than I did in the case of Englishmen. I say this in order to show you that Scotchmen have not been treated coolly in any way by the originators of your Association; and I am quite sure that none of us Englishmen wish to do so. I think we ought to look at our profession as such, and not from a national point of view at all. With regard to subjects for discussion there are plenty, but the difficulty is to find men to take the trouble to write; and to have meetings we must have essayists.

Mr. WOLSTENHOLME: I can also vouch that the Provisional Committee have not been remiss. Every member of the profession in England, Ireland, Scotland, and Wales has been invited to join the Association and attend this meeting and dinner this evening.

Mr. EDGAR: I should like to remark that we can hardly look upon ourselves as a progressive Association if, after holding two annual meetings, we should fall back into biennial ones. If there is a demand, we invariably find a supply. I do not believe that a healthy interest will be kept alive in the Association if the meetings are only held every second year.

Mr. HURNDALL: It seems to me most unfortunate that the proposition for meeting to be held every two years should have emanated from Dr. Fleming, who has always shown himself to be desirous of forwarding the interests of our profession. I do not agree with him in this; for it appears to me that the adoption of this course will be likely to lessen the influence of the Association. I do not believe that there would be a lack of subjects, and I am sure that we should find men able and willing to come forward and write papers for discussion. I think that it would be unwise to meet at Edinburgh next year; for the Association is young, and that city is distant. Still, I should like to see the meeting held there on as early a date as possible; although I think that Birmingham should be the place selected for next year's meeting.

Dr. FLEMING: I did not intend to bring up the feeling of nationality. What I say is, that we have only a few members in Scotland who belong to this Association; and we have had no invitation from Scotland. The success of this Association depends upon its *local* influences. The work here (in Manchester) has been well done by the local committee. I think that we have heard a great deal too much about nationality, and I entirely disclaim any intention of putting a slight upon our Scotch brethren.

The CHAIRMAN then demanded a show of hands, with the view of ascertaining whether the next general meeting should take place at Edinburgh or Birmingham. It was found that seventeen were in favour of Edinburgh, and twenty-two for Birmingham. The latter city was accordingly chosen.

Mr. W. A. TAYLOR proposed that the next general meeting of the National Veterinary Association be held some time during the year 1885.

Mr. BANHAM seconded the resolution, which was duly carried.

2. *Date of Meeting.*

The PRESIDENT thought that as many unforeseen circumstances might arise, the date of the meeting might be fixed by the officers at some future time.

3. *Election of President.*

Mr. GREAVES proposed, and Mr. STANLEY seconded the motion, that Mr. H. Olver, of Tamworth, be elected President for the ensuing year.

This was carried unanimously.

4. *The election of Dr. G. Fleming, F.R.C.V.S. (ex-President), a Life-Vice-President of the National Veterinary Association.*

Professor MCCALL said: It is with the greatest pleasure that I rise to propose that Dr. Fleming be appointed a Life-Vice-President of this Association. There is no real necessity that I should add more, in order to induce you to accept this proposition. Dr. Fleming has done more for the veterinary profession than any man living, or I may say, dead. He is a "writer," and he takes a very lively interest, not only in all connected with the Council of the R.C.V.S., but he is one of our most active examiners. He occupies a very high position indeed in connection with our profession in the army, and he has broken down the barrier that has hitherto existed, to prevent members of the veterinary profession occupying honourable positions in the army. I could say a great deal more in praise of Dr. Fleming, but it would be out of place in his hearing.

The PRESIDENT: I can endorse every word which has just fallen from Professor McCall. We all know how Dr. Fleming has laboured for the good of our profession. He has lately been elected a Governor of the Royal Veterinary College—an honour which only two or three of our profession have obtained. I am quite sure that you will have very great pleasure in passing this resolution.

The motion was unanimously adopted.

Dr. FLEMING: Mr. President and gentlemen, I thank you most sincerely for the high honour you have conferred upon me. It is always painful to listen to one's own praises, and I must confess that I do not deserve all that has been said about me. I need not tell you how anxious I am that our profession should advance, and that workers should arise on every side. The only way is to encourage workers as much as we can. There have been times when I had not much encouragement, but I was animated by a feeling that I had the support of the profession. It is with the greatest gratification that I find that the little I have been able to accomplish—far less than I should have liked—has been so well received by you. I shall value as long as I live the great honour you have done me, and shall always support our profession to the best of my ability.

Mr. OLVER: The next business is the election of six members of Council. I beg to propose six names which will—I think—be well received by you; they are Messrs. T. Briggs (Bury), C. Cunningham (Slateford), W. Dale (Coventry), T. Lambert (Ireland), H. G. Lepper (Aylesbury), Captain B. Russell (Grantham).

Professor WALLEY: I have very great pleasure in seconding Mr. Olver's proposition, which is an excellent one. We all know the gentlemen who have been named.

The President having put the motion to the meeting, the above-mentioned six gentlemen were declared unanimously elected *Members of Council* for the ensuing year, 1885.

LIST OF MEMBERS OF THE NATIONAL VETERINARY ASSOCIATION.

Those marked (1) have served as President.
" (2) " as Vice-Presidents.
" (3) " on the Council.
" (4) " as Treasurer.
" (5) " as General Secretary.
" (6) " on Provisional Committee.
" (7) " as Local Secretary.
" (8) have written papers for discussion.
(F) signifies Fellow of the Royal Coll. Vet. Surgeons.

Almond, N., Chipping Ongar.
Anderton, J. W. (F.), Skipton-in-Craven.
Awde, W., Stockton-on-Tees.
(3) Axe, J. M., Doncaster.
(6) Axe, J. W., Professor, R.V.C.
(3. 6) Bain, Alex., Liverpool.
Baker, E. W., Liverpool.
(3. 5. 6) Banham, Geo. A. (F), Cambridge.
(6) Barford, J. D., Southampton.
Barnes, C. T., Cheadle.
Barrett, W. F., New Cross, S.E.
Batt, Thos., London.
(6) Batt, E. E., The Brown Institution.
Bell, J., Carlisle.
Blakeway, F. (F), Stourbridge.
Bland, Geo., Alfreton.
Blunt, H., Lutterworth.
Blenkinsop, L. J., London.
Bloye, W. H., Plymouth.
Bower, Wm., East Rudham.
(3) Bradshaw, H. K., Portrush.
(3. 6. 8) Briggs, Thos. (F), Bury.
(3. 6) Broad, Alf. (F.), London.
Broad, Arthur "
Broad, J., "
(3) Broad, T. D. (F), Bath.
Brookes, A., Pilkington, near Manchester.
Brookes, Wm., Pilkington, near Manchester,
Briggs, A. W., Halifax.
(3) Broughton, W. (F), Leeds.
Brown, J. H., Wanstead.
Burnett, J., Maybole, Ayr.
Burrell, T., London.
Cameron, John, Berwick.
(3) Carless, W. J., Lincoln.
(3) Carless, W., Stafford.
Carter, J. S. (F), Bradford.
Carter, G. W., Keighley.
Cartwright, H. J. (F.), Wolverhampton.
Challinor, C. E. (F), Pendlebury.
Cheesman, E. T. (F), A.V.D.
Chesterman, T. G., London.
Coe, Jos., Stoke-upon-Trent.
Cope, A. C., Veterinary Department, Privy Council.
(6. 8) Cox, J. H., A.V.D.
(6) Cox, J. Roalfe (F), London.
(3) Cunningham, C., Slateford.
Cupiss, F., Diss.
Darwell, A. H., Northwich.
Davies, T. J., Bootle.
Davis, Herbert, Blackheath.
Dawson, J., Carlisle.
(3) Donald, J., Wigton.
Dudgeon, D., Sunderland
Duguid, W. (F), Veterinary Department, Privy Council.
Dyer, H., Leatherhead.
Edgar, H., } Dartford.
(6) Edgar, W. Alston, }
Edwards, R. C., Chester.
(6) Elam, C. W., Liverpool.
(3) Elphick, G., Newcastle-on-Tyne.
Elphick, J. E., Ash Sandwich.
(6) Farrance, F., Eastbourne.
(6) Faulkner, Ed., Manchester.
(6) Ferguson, Hugh, Warrington.
Ferguson, John H., Leeds.
(2) Fitzwygram, Sir F., Bart. (F).
(1. 2. 3. 6) Fleming, Geo. (F), LL.D., P.V.S., A.V.D.
Fletcher, T., Sheffield.
Frost, Thos. A., Hounslow.
Fulton, D., Mullingar.
Garside, F., Disley.
Garside, W. F., Professor, Cirencester.
(6) Gibbs, J., Bromley.
Goodacre, Geo., Crowle.
Graves, Wright, Histon, Cambs.
Gray, Alex., Prof. Royal (Dick) Vet. College.
Gray, G., Romford.
(1. 2. 3. 6) Greaves, Thos. (F), Manchester.

(3) Gregory, T. D., Bideford.
Greenhalgh, W. T., Leeds.
T. P. Gudgin (F), I.V.S., A.V.D.
Hammond, John, Bale.
(6) Hancock, W. J., London.
Harpley, Matthew (F), A.V.D.
Haslam, J., Manchester.
(3) Heath, J. P., Exeter.
Hedley, Matt. (F), Dublin.
Hewson, Frederick, Royston.
Higgott, T. H., Bakewell.
Hills, H., Cambridge.
Hills, O. J. (F), Leamington.
Hogben, H. T., Folkestone,
Hollingham, E. A., Red Hill.
Holmans, S. E., } Lee Green,
Holmans, S. G., } London.
(3. 6) Hopkin, Tedbar (F), Manchester.
(6) Howell, J. (F), Rochdale.
Huband, T. A., Cheltenham.
Humphries, G., Manchester.
(3) Hunter, H., Newcastle.
(2) Hunting, Chas. (F), } South Hetton
Hunting, C. S., } Fence Houses.
(6) Hunting, W. (F), London.
(6) Hurndall, J. S., Liverpool.
Ingersoll, F. R., Lewisham.
(6) Ingram, J. W., Manchester.
James, J. C., Thornbury.
(3) Kidd, H., Hungerford.
Killick, T. H., A.V.D.
Kitchin, E., Liverpool.
(6) Lambert, J. (F), I.V.S., A.V.D.
(2) Lambert, T. D. (F), Dublin.
(3. 6) Lawson, Alex., Manchester.
(2. 6) Lawson, John, Manchester.
Leather, Arthur, }
Leather, Joseph, } Liverpool.
(3. 6) Leather, Wm. (F), }
Lee, Wm., High Wycombe.
(3) Lepper, G. A. (F)., } Aylesbury.
Lepper, H. S., }
(3) Lewis, Thos. H., Prof. New Vet. Coll.
(3) Lewis, Walter, Crewe.
Litt, J., Bolton.
(3) Litt, W. E., Shrewsbury.
Lock, S., Manchester.
Lomas, W., Buxton.
Longhurst, W. H., Hull.
Low, Frederick, Norwich.
Lupton, J. I. (F), Richmond.
MacCallum, A. J., Edinburgh.
(3) Mackinder, J. (F), Peterborough.
(3) Malcolm, John, Enniscorthy.
Marshall, F. F., A.V.D.
(3. 6) Martin, J. B., Rochester.
Matthews, I. (F), A.V.D.
Mayor, G. G., Kirkham.
(3. 8) McCall, J. (F), Principal, Glasgow Veterinary College.
(6) McGill, D., London.
Mellett, E., } Henley-on-Thames.
Mellett, E. J., }
Miller, G. B., Dublin.
Moir, Chas. W., Cardiff.
(3. 6) Moore, J. W. T. (F), Birkenhead.
Moore, T., London.
Mulvey, W. J., Durham.
Nettleship, E., F.R.C.S., London.
Nuttall, E., Preston.
Oliver, Geo. A. (F), A.V.D.
(2. 3) Olver, H. (F), Tamworth.
Olver, T. (F), Truro.
Over, Alf., Rugby.
(3) Overed, J. D., Blofield.
Parr, J. G., Leicester.
Patterson, G. T., London.
(5. 6. 7) Penberthy, J., Lecturer, R.V.C.
Polding, J. A., Bury, Lancashire.
Preston, J. (F), Mallow.
Price, T. S., London.
(2. 3. 6. 8) Pritchard, Wm., London.
Proctor, F., Manchester.
(6) Reekie, W. W., London.
Reynolds J. H., Daventry.
(3) Reynolds, R. S., Liverpool.
Ritchie, J., Forfar, N.B.
Roach, W., Exeter.
Roberts, Richard, Kendal.
(3) Robertson, Wm. (F), Principal, R.V.C.
Rock, M. M., Chislehurst.
Rostron, J. A. (F), A.V.D.
(6) Rowe, J. London.
Runciman, T., Market Deeping.
(3) Russell, B. H. (F), Grantham.
(2. 3) Rutherford, R., Edinburgh.
Samson, F. G., Mitcham.
Santy, A. H. (F), Norwich.
Sartin, S. R., A.V.D.
(6) Shaw, H. K., London,
Shave, E. S., Lecturer, R.V.C.
(6) Sheather, Chas. (F), London.
Shillingford, R. F., Buckingham.
Shipley, W., Great Yarmouth.
(2. 3) Simcocks, T. H., Drogheda.
(6) Simpson, C. H., Windsor.
Slocock, S., Hounslow.

(3) Smart, W. W., Newcastle-on-Tyne.
Smith, Benjamin, Barnsley.
(6) South, W. A., London.
(3) Sperring, J. J. (F), Dublin.
Stanley, E. (F), Warwick.
(3) Stanley, H. M., Birmingham.
Steel, J. H., A.V.D.
Stephenson, C. (F), Newcastle-on-Tyne.
Stephenson, R., Longton.
Stock, R. A. (F), Lewis.
Tayler, Rowland, Colchester.
Taylor, F. W., Cheltenham.
Taylor, J. B., Ashton-under-Lyne.
(3. 6) Taylor, Peter (F), Manchester.
(2. 3. 6) Taylor, W. A. (F), Manchester.
(3) Thomas, W. H., Plymouth.
Thompson, Hy., Aspatria.
Toop, T. C., Knaresboro'.
(3) Trigger, R. C., Newcastle-under-Lyne.
Unsworth, J. B., Market Drayton.
Villar, Sidney, Harrow-on-the-Hill.
Walker, J. P. S., Oxford.
(3) Walker, Peter, Bradford.
(3. 8) Walley, Thomas, Principal, Royal (Dick) Veterinary College.
Wallis, Page, Cambridge.
(6) Walters, W. B. (F.), Professor, A.V.S.
Waters, Geo., Cambridge.
Welsby, J. H. (F), } Liverpool.
Welsby, W. M., }
(3. 6) Whittle, Wm. (F), Manchester.
Wiggins, J., Market Harboro'.
Wilkinson, A., Ashton-under-Lyne.
(3. 8) Williams, Wm. (F), Principal, New Veterinary College.
Wilson, Wm., Berkhampstead.
(3. 6. 7) Wolstenholme, J. B., Manchester.
(3. 6) Woodger, Joseph, London.
(2. 6) Woods, Wm. (F), Wigan.
(6) Woods, W., Junr.
(3. 4. 6) Wragg, Frank, W., London.

Total No. of Members : 221.

Army Veterinary Department.

Gazette, June 23rd.

Veterinary Surgeon William J. Masters, half-pay, has been placed on retired pay. 17th June, 1885. The following Veterinary Surgeons to be Veterinary Surgeons (First Class) :—Murray Anderson, James Mills, Thomas Flintoff. 23rd June, 1885.

Gazette, June 26th.

The following Veterinary Surgeons on probation to be Veterinary Surgeons: —Patrick W. Dundon, George C. O. Fowler, John A. Meredith. 10th December, 1884.

The thanks of the Madras Government have been conveyed to Veterinary Surgeon Steel for his very able report on the causes of an outbreak of an enzootic in Burmah. Dr. Evans, the Inspecting Veterinary Surgeon of that Presidency, has recorded his opinion that "it is an exceedingly valuable report, certainly the best contribution to veterinary pathology ever made in India." He adds that the report will be well nigh invaluable in the Punjaub Frontier Force, where the horses suffer much from the disease known by the name "Surra." Mr. Steel is to see to his report passing through the press, and has been recommended to the Government of India for an honorarium as an encouragement for his successfully investigating a most obscure disease.

In order to avoid misconception, and to give authoritative and official weight to what has hitherto been left entirely to the Principal Veterinary Surgeon, the Horse Guards and War Office have assented that for the future the following regulations will be observed in the appointment of veterinary surgeons to the Army Veterinary Department, and in the examination of veterinary officers to the grade of First Class and Inspecting Veterinary Surgeon.

Candidates for Admission.

1. The minimum age of candidates is twenty-one years, and the maximum age twenty-six years, except in special cases or on urgent occasions, when the latter limit may be exceeded. Candidates must be unmarried.

2. Every candidate must be a Member of the Royal College of Veterinary Surgeons.

3. He will be required to forward the following certificates, prior to examination, to the Principal Veterinary Surgeon, War Office :—(*a*) A certificate of birth or baptism, or other satisfactory proof of age. (*b*) Certificates of moral character from clergymen or others in a position to testify, and whose evidence may be deemed satisfactory; also from the Principal and Professors of the College at which the candidate has been professionally educated.

4. Every candidate will undergo a medical examination in order to ascertain his state of health and physical fitness.

5. The professional examination will be in two parts, written and practical. The written examination will embrace the following subjects :—(*a*) Anatomy; (*b*) physiology; (*c*) histology; (*d*) pathology, horse; (*e*) pathology, cattle; (*f*) surgery; (*g*) chemistry; (*h*) materia medica; (*i*) toxicology; (*j*) botany; (*k*) sanitation; (*l*) dietetics; (*m*) principles of shoeing.

The practical examination will be conducted by a Board of Veterinary Officers, and will include: (*a*) Examination of horses as to soundness; (*b*) examination of horses as to age; (*c*) exterior of the horse, with regard to points, marks, seat of disease, conformation necessary for different kinds of military service, etc. (*d*) operations; (*e*) prescribing, compounding, and administering medicines.

Rules for the Examination for Promotion to the Grade of Veterinary Surgeon (First Class).

The examination for promotion to the grade of Veterinary Surgeon (First Class) will be a written one, and will include the subjects in the same examination for admission to the Department, with the addition in section *d* (cattle pathology) of the diseases peculiar to the camel and elephant, in section *k* of sanitation in India, and in section *l* of dietetics in that country.

Rules for the Examination for Promotion to the Grade of Inspecting Veterinary Surgeon.

The examination for promotion to the grade of Inspecting Veterinary Surgeon will be a written one, and be based chiefly on subjects connected with veterinary administrative duties (as laid down in the Army Veterinary Regulations) at home and in India, and also with regard to administrative duties in the field.

The following scale of pay for officers of this Department in India came into effect on the 30th April :—Principal Veterinary Surgeon in India, Rs. 1,220 per month; Inspecting Veterinary Surgeon, Rs. 1,020 per month; Veterinary Surgeon (First Class), Rs. 600 per month. After five years' service as such, Rs. 650 per month. After ten years' service as such, Rs. 750 per month. Veterinary Surgeon under five years' service, Rs. 400 per month; after five years' service, Rs. 450 per month; and after ten years' service, Rs. 500 per month.

The Heavy Camel Corps returned from the Nile Expedition July 3rd, and was inspected by the Queen at Osborne, Isle of Wight, on the following day. After the inspection, the officers were presented to Her Majesty, among them being Principal Veterinary Surgeon Walters and Inspecting Veterinary Surgeon Hinge.

Obituary.

The following deaths have been reported:—JAMES HARRIS, M.R.C.V.S. retired from the Indian army, graduated in 1827. HENRY R. STEVENS, M.R.C.V.S., London, graduated in 1834; and CHARLES MARKHAM, M.R.C.V.S., Stafford, a graduate of 1866.

JAMES T. TWISS, a very promising young officer of the Army Veterinary Department, died on June 22nd, at the early age of twenty-three years. Entering the army in 1883, after passing an excellent test examination, on undergoing the prescribed six months' probationary service he went to Bombay. Owing to a tumour forming on his lower jaw, he was invalided home in January of this year for operation, and soon after arrival the growth was removed. For some time he appeared to be cured, and in April he attended the levée held by the Prince of Wales in Dublin Castle. Immediately after a new growth was discovered, and a second operation had to be undergone. From this he suffered much pain, and gradually sank from exhaustion at his residence, in Ashford, county Wicklow.

The veterinary profession has lost one of its most zealous and illustrious members by the death of M. AUGUSTE ZÜNDEL, principal or superior veterinary surgeon of Alsace-Lorraine, the melancholy event occurring at Strasbourg on June 18th. Our esteemed friend and colleague, who was only fifty years of age when he died, had long won a foremost place among the most advanced of the Continental veterinarians by his numerous scientific writings, continued over a long period, in German and French journals, his intimate knowledge of several languages giving him further facilities in this direction. He translated Leyh's "Veterinary Anatomy" from German into French, but his most valuable work, and that by which his name will be longest remembered, is his edition of D'Arboval's "Dictionnaire de Médecine, de Chirurgie, et d'Hygiène Vétérinaires," a work which should really have appeared in his own name alone. His services were largely recognised by medical and veterinary societies. He was an Honorary Associate of our Royal College, and had decorations from several monarchs.

Veterinary Surgeon Fooks, 2nd United States Cavalry, sends us the following:—

"I regret to have to report the death of JAMES HUMPHRIES, V.S., of the 2nd U.S. Cavalry, who died in San Francisco, Cal., on 31st December, 1884, from Glanders.

"Mr. Humphries came to this country from Bloomsbury, Manchester, England, and graduated from the Ontario Veterinary College in 1878. He moved to Hamsburg, Pa., and soon established an excellent practice. In 1879 he gave up this and entered the army service, being appointed veterinary surgeon to the 2nd Cavalry, and held that position until his death. He was highly respected by the officers of his regiment as a gentleman and skilful practitioner, and in his death the profession has lost one of its most valuable workers.

"It was Mr. Humphries' great object to promote the interests of the veterinary profession in the American army, and had he not been so soon cut off his efforts must have been attended with success.

"While holding a *post-mortem* on several glandered horses, it is supposed that he became inoculated with the virus through a cut on his finger."

Correspondence.

THE RELATION OF FUNGI TO BURSATTI AND OTHER CHRONIC ULCERS AND GROWTHS IN INDIA.

SIR,—It is still a debated point what signification is to be attributed to the fungi which are to be found scattered in variable numbers in many forms of Lupus, in Bursatti and human Cancer, in Keloid, in Ichthyosis, in Chronic Ulcers, and especially in *healthy* tissues which have been steeped in special fluids; since by some they are regarded as a passive accumulation of organisms which have settled from the air, and by others as the cause of production of the disease-process which they have been noticed to accompany. A series of observations which the writer has recently instituted on specimens from some of these disease conditions, as well as others by various observers both since and formerly, seem to throw light on the problem. In specimens of Delhi Boil, Drs. Lewis and Cunningham ("Report on 'Oriental Sore,' or Lupus Endemicus," 1876) have already shown that fungi frequently grew in consequence of preparing specimens in special media; and by their development on healthy surfaces, as in simple wounds and ulcers of the horse, as shown by us (*Veterinarian*, January, 1885), and on healthy tissues hardened in many solutions they could be plainly seen to have been present, in these cases due to accidental circumstances. Quite recently Dr. Fenwick (*Lancet*, January, 1885) has obtained, in a 4 per cent. solution of cucain, a peculiar form of mould fungus which he is disposed to regard as the cause of the inflammation found set up in wounds after the use of this solution.

Those who believe in these fungi being the cause of the disease processes in which they have been met adduce no proof in support of their views beyond that of bare assertion.

The idea of many normal cells, capable of modification into the various forms of disease-producing particles, commends itself at once as a view likely to reconcile many differences, and be acceptable to practical as well as inductive physiologists, pathologists, and clinicians—Uskoff, Ponfick (Virchow's *Archiv*, 1881), Drs. Sanderson, Tilbury Fox ("Endemic Skin Diseases of India and Other Hot Climates," 1876), Beale (*Journal of Microscopical Science*, 1870), and others many years ago rejected an exclusively vegetable theory of morbid processes, which has not been controverted. A constitutional cause is doubtless at work, which attacks the cellular protoplasm, leading to the necrotic changes that are seen in this disease (Bursatti).

Professor Kraske (*Centralbl. für Chirurgie*, No. 48, 1884), of Freiburg, has explained the development of secondary nodules in internal organs in the course of cancerous disease as "the result of development of living epithelial masses detached from the primary growth, and implanted to internal structures, which present a favourable nidus for the retention and nurture of any wandering particle of carcinoma."

It is evident that the vitality of the protoplasm of the cells is impaired by perverted nutrition, which may be aggravated by many qualifying circumstances, but especially by injury or irritation, by climate, and amount of moisture in the air, etc.

R. W. BURKE,
Cawnpore, *15th June*, 1885. *Veterinary Surgeon, A.V.D.*

A MISTAKE.

DEAR SIR,—Allow me to apologise for a mistake which occurred in sending out the circulars of the National Veterinary Association to the Scotch and Irish members of the profession. My clerk unfortunately sealed the corner of the circulars, the consequence being that they were again charged for as letters on delivery.

G. A. BANHAM.

NON-PROFESSIONALS SELLING MEDICINE.

SIR,—In your next issue you would confer a favour by giving some information on the following :—

In country towns and villages, some shopkeepers, in addition to a good supply of strong whisky and ale, also supply their customers with medicine for horses and cattle.

They certainly do not say they are veterinary surgeons, nor do they use any letters after their names which may mislead the public into the belief that they are such ; but all the same, they do a roaring trade in prescribing and dispensing such medicines, as also opium, belladonna, aconite, the mineral acids, etc.

Is there no law to prevent them doing this? and if so, how, or by whom can the necessary steps be taken? "INQUIRER."

[There is a law to prohibit the sale of poisons. The police should see it enforced. Apply to a magistrate.]

"KUMRI."

DEAR SIR,—In reply to the letter from Mr. Poyser in the June number of the VETERINARY JOURNAL, kindly permit me to assure that gentleman that I shall be happy to retract—as soon as he assures me, in courteous language, that I was mistaken.—Yours very truly,

65, Maryon Road, Charlton, S.E. JOHN B. W. SKOULDING.

A CORRECTION.

IN the report of the proceedings of the Annual Meeting of the R.C.V.S., which appears in the June Journal, Mr. W. A. Taylor is represented, on page 417, as having said "his friend Mr. Ward." This ought to be, "his friend Professor Vaughan."

TO CORRESPONDENTS.

The report of the Southern Counties and the Lincolnshire Veterinary Associations, and communications from various correspondents, are held over until next month.

Communications, Books, Journals, etc., Received.

COMMUNICATIONS have been received from E. R. Fooks, Fort Walla Walla, U.S.A. ; C. Gresty, Newcastle-on-Tyne ; A. Smith, Toronto ; A. E. Hollingham, Redhill; J. H. Steel, Bombay ; J. B. Gresswell, Louth ; J. Macqueen, Glasgow ; A. Shawcross, Louth ; J. Donald, Carlisle ; A. W. Hill, London ; G. A. Banham, Cambridge ; "Inquirer ;" C. Hartley, Lincoln ; J. B. W. Skoulding, Woolwich.

BOOKS AND PAMPHLETS : *K. Ossol*, Experimentelle Untersuchungen über die Anthraxvirus ; *J. S. Hurndall*, Is Tuberculosis Transmissible through the Medium of Milk drawn from a Tuberculous Cow? *J. F. Allen*, Is Enteric Fever a Cattle Disease? *G. S. Heatley*, Practical Veterinary Remedies ; *L. Brusasco*, Un Caso di Colemia Acuta da Policolia in un Cane ; Annual Announcement of the New York College of Veterinary Surgeons.

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